FM 7-92

THE INFANTRY RECONNAISSANCE PLATOON AND SQUAD (AIRBORNE, AIR ASSAULT, LIGHT INFANTRY)

HEADQUARTERS
DEPARTMENT OF THE ARMY

CHANGE 1

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The Infantry Reconnaissance Platoon and Squad (Airborne, Air Assault, Light Infantry)

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FM 7-92

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DEPARTMENT OF THE ARMY
Washington, DC, 23 December 1992

THE INFANTRY RECONNAISSANCE PLATOON AND SQUAD (AIRBORNE, AIR ASSAULT, LIGHT INFANTRY)

Contents

PREFACE

This manual describes the doctrinal and tactical employment of the reconnaissance platoon in airborne, air assault, and light infantry battalions. It provides the reconnaissance platoon's leaders with tactics, techniques, and procedures to exploit its reconnaissance and security capabilities, to reduce its vulnerabilities, and to enable its parent battalion to obtain the information necessary to win on the battlefield.

This manual also provides guidance for employing the reconnaissance platoon or infantry platoons that conduct reconnaissance and security operations. The estimate of the situation determines how to apply the doctrine in this manual.

This manual complements FM 7-8 and FM 7-20. Since the reconnaissance platoon is a critical battalion asset comprising specially trained infantrymen, platoon leaders must understand FM 7-8 and FM 7-20. This manual reemphasizes information from other manuals that are of critical importance and especially useful to scouts. This does not relieve the user of the responsibility of referring to other manuals for in-depth discussions of particular subjects. How to train the reconnaissance platoon is addressed in ARTEP 7-92-MTP.

Although this manual does not implement any international agreements, the material presented herein is in accordance with related international agreements.

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Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

CHAPTER 1
INTRODUCTION

The infantry reconnaissance platoon is a specialty platoon comprised of infantry soldiers. Unlike traditional infantry platoons whose primary mission is to kill the enemy, the reconnaissance platoon's primary mission is to provide the battalion commander information about the enemy. The battalion commander uses the reconnaissance platoon to gather critical battlefield information. This information is used by the commander and his staff during the planning and execution of combat operations. This chapter discusses the role, organization, missions, and employment of the reconnaissance platoon.

1-1. ROLE OF THE RECONNAISSANCE PLATOON

The battalion commander and his staff determine the role of the reconnaissance platoon. The primary roles associated with the platoon are reconnaissance and to a lesser degree security. The reconnaissance platoon does not have to kill the enemy to be effective. By performing stealthy reconnaissance and security tasks, the reconnaissance platoon makes it easier for the battalion commander to maneuver companies, concentrate combat power, and prevent surprise by providing him with current and continuous battlefield information.

1-2. LEADER SKILLS

Leaders within a reconnaissance platoon should be the most tactically and technically proficient soldiers in a battalion. Reconnaissance leaders must understand how a battalion operates in a tactical environment. They know their duties and responsibilities to the battalion—to provide accurate and timely information. Reconnaissance leaders are masters of stealth; they exercise initiative in the absence of guidance; they are intelligent, resourceful, dependable, and disciplined.

1-3. SOLDIER SKILLS

Soldiers within a reconnaissance platoon should also be the most tactically and technically proficient soldiers in a battalion. The reconnaissance platoon leader should be actively involved in the selection of soldiers. Reconnaissance platoon soldiers are physically fit; they are expert in skills such as land navigation, communications, camouflage, individual movement, and survival. They know the enemy's order of battle and equipment. They understand the importance of their mission to the battalion and what is required to accomplish that mission. Like their leaders, soldiers use their initiative; they are intelligent, resourceful, dependable, and disciplined.

1-4. ORGANIZATION

The reconnaissance platoon in light infantry, airborne, and air assault battalions consists of 1 officer and 18 enlisted soldiers that are organized into a platoon headquarters and three squads (Figure 1-1). The reconnaissance platoon is equipped with individual weapons, night vision devices, and communications equipment. There are a total of 16 M16A2 rifles and 3 M203 grenade launchers (one per squad). The reconnaissance platoon's mission and geographic location may require a modified table of organization and equipment (MTOE).

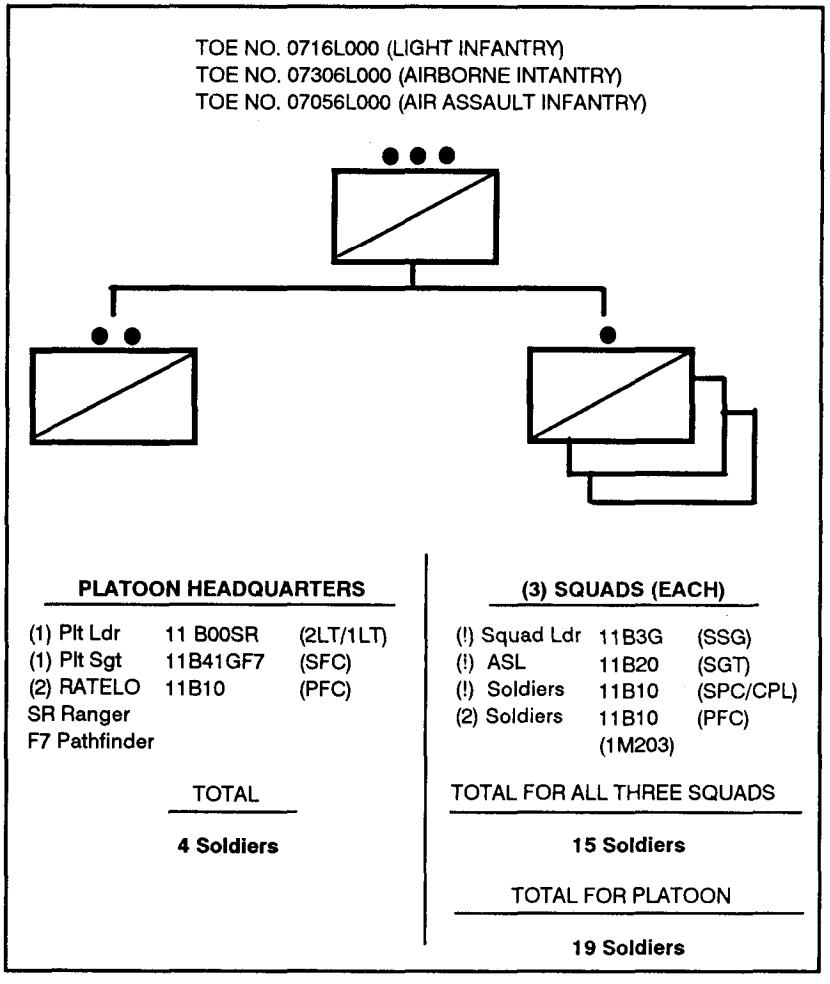


Figure 1-1. Reconnaissance platoon organization.

a. **Platoon Headquarters.** The platoon headquarters provides leadership and control of reconnaissance platoon operations. It consists of the platoon leader, platoon sergeant, and two RATELOs. The platoon headquarters controls and employs attachments provided by battalion.

b. **Squads.** Each squad consists of a squad leader, assistant squad leader, and soldiers. The squads perform reconnaissance and security missions as directed by the platoon headquarters. Squads also assist in tactical control and coordination.

1-5. MISSION

The reconnaissance platoon is organized, equipped, and trained to conduct reconnaissance and limited security tasks for its parent battalion. The platoon's primary mission is to provide battlefield information. The reconnaissance platoon also assists in the tactical control, movement, and positioning of the battalion's companies and platoons. The reconnaissance platoon is employed under battalion control, but it may be detached for a specific operation. The reconnaissance platoon can be tasked—

a. To conduct zone reconnaissance.
b. To conduct area reconnaissance.
c. To conduct route reconnaissance.
d. To screen within the platoon's capability.
e. To conduct surveillance of critical areas of concern.
f. To link up and conduct liaison.
g. To guide maneuver forces.
h. To conduct chemical detection and radiological survey and monitoring.

1-6. EMPLOYMENT

The reconnaissance platoon leader has overall responsibility for ensuring that the platoon accomplishes its mission. The platoon leader must know the tactical strengths and weaknesses of the platoon, and must determine the most effective and efficient method of employing the platoon. The reconnaissance platoon prepares, plans, and executes its assigned missions with the assistance of the battalion staff. Primary and specialty staff officers provide expertise for a particular battlefield operating system: the battalion S2 provides information on the enemy and terrain; the S3 assigns missions and integrates the reconnaissance platoon into the battalion plan; the fire support officer ensures that artillery and mortar fires support the reconnaissance platoon's plan; the S4 ensures that the logistical requirements of the platoon are satisfied; the signal officer ensures that the platoon's communications requirements are satisfied. The reconnaissance platoon leader should memorize the specific functions of the battalion staff and use its expertise whenever possible. With the assistance

of the battalion staff, the reconnaissance platoon leader has several aids in his "mental kitbag."

a. The reconnaissance platoon can operate as a platoon or as separate squads under platoon control. The decision to work as a platoon or squad is based on METT-T factors. The reconnaissance platoon leader considers those factors while making his estimate of the situation. The commander and his staff consider the reconnaissance platoon's organization and abilities when planning missions for the reconnaissance platoon.

b. Reconnaissance or security operations may require the platoon to be more tactically mobile than the parent battalion. The battalion can provide only limited organic transportation to the light, airborne, and air assault reconnaissance platoons.

c. The platoon's small size limits its ability to conduct a zone reconnaissance. The terrain, enemy situation, and time available also affect the size of the zone the reconnaissance platoon can reconnoiter. The commander must consider tasking other rifle platoons to supplement the reconnaissance platoon for the intensive reconnaissance effort required by a zone reconnaissance.

d. The platoon may only be able to reconnoiter a single route during a route reconnaissance (depending on route length, enemy situation, and terrain). If routes are short and enemy contact unlikely, the platoon can reconnoiter up to three routes.

e. The reconnaissance effort of the platoon is established by the battalion commander and his staff. The purpose of the reconnaissance effort must be clearly stated. This prevents the reconnaissance platoon from wasting precious time.

f. The ability of a reconnaissance platoon to conduct security for the battalion is limited. The primary security mission assigned to the reconnaissance platoon is the screen-either moving or stationary. The reconnaissance platoon, in conjunction with infantry platoons, can effectively screen the battalion's front, flank, or rear.

g. The platoon's ability to conduct continuous surveillance is limited due to personnel. METT-T dictates the total number of OPs the platoon will establish. However, for continuous surveillance to be effective, no more than three OPs should be established.

h. The distance that the reconnaissance platoon operates from the main body is restricted by the capability of its communications equipment. With its organic equipment, the platoon operates two nets—battalion operations and intelligence net, and the platoon net.

1-7. TRAINING

Training is the cornerstone of success. Therefore, reconnaissance platoons must train for combat using the standardized training literature and doctrinal manuals that provide reconnaissance leaders with the correct procedures and principles to conduct training properly. They should also refer to ARTEP 7-92-MTP to find the specific conditions and standards for the techniques and procedures discussed in this manual. Training requires leaders to use their initiative and to make quick decisions. The training environment must be realistic and stressful. Training must challenge soldiers to master all infantry tasks, individual and collective, and it must constantly remind them of their mission, of their heritage, and of the physical toughness and mental stress that is required of them. Platoon training also promotes the cohesion and determination of the platoon so that, when plans go wrong, the platoon continues to carry out the mission.

CHAPTER 2
COMMAND AND CONTROL

Command and control in the reconnaissance platoon depends on sound leadership, training, SOPs, and communications techniques in pursuit of well-defined and attainable objectives. This chapter discusses how leaders within the reconnaissance platoon implement the decision-making process and use troop-leading procedures (TLPs) to plan and conduct reconnaissance platoon operations. It also discusses the battalion's role in command and control and the generation of information requirements by the battalion staff.

Section I. COMMAND AND CONTROL SYSTEM

A command and control system includes the facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations of assigned forces pursuant to the missions assigned.

2-1. BATTALION COMMAND AND CONTROL

The battalion commander exercises command and control of all elements assigned to the battalion for a specific mission. The battalion commander exercises his command authority by issuing clear and concise instructions. These instructions are either written, transmitted via radio, or given face to face. These instructions are given in mission-type orders, organized and formatted into warning, operation, or fragmentary orders. These orders explain what the commander wants done—not how it is to be done. Once subordinates receive, understand, and finally begin to execute orders, the commander supervises to ensure his orders are being executed according to his intent.

The battalion commander exercises his control over subordinates through the use of graphic control measures such as boundaries, phase lines, objectives, assault positions, and so forth. Graphic control measures help the battalion commander control and synchronize assets and the flow of the battle. The commander can also restrict subordinates by establishing not-earlier-than (NET) or not-later-than (NLT) times. A battalion's command and control system directly influences reconnaissance platoon operations. A reconnaissance platoon is effective if the battalion can inform the platoon of its mission, notify the platoon of major changes, and control assets that affect reconnaissance platoon operations.

2-2. COMMANDER'S INTENT AND CONCEPT

The platoon leader must understand what the battalion commander's intent and concept are for a given operation. This understanding enables the reconnaissance platoon to use its initiative during the execution of an operation. The battalion commander's intent and concept are developed during the early stages of planning. However, the reconnaissance platoon is normally executing its assigned mission while the battalion is developing its plan. Whenever the tactical situation permits, the reconnaissance platoon leader should coordinate with the battalion commander to ensure that the platoon leader understands the commander's initial intent and concept. Even if the commander has not fully developed his intent and concept, he can tell the platoon leader what he expects the reconnaissance platoon to accomplish. Usually, information provided by the reconnaissance platoon directly affects the battalion commander's intent and concept.

a. **Intent.** The battalion commander's intent is stated in clear and concise terms to ensure understanding throughout the force. The intent is the commander's stated vision, which defines the purpose of the operation and the end state with respect to the relationship among the force, the enemy, and the terrain. The platoon leader uses this information along with any specified tasks to guide the platoon's actions. For example, the battalion commander's intent is to force the commitment of the enemy counterattack force. In this scenario, the platoon leader positions his platoon so that they are able to provide information on the counterattack force. All other actions are secondary. The platoon leader ensures that all members of the reconnaissance platoon understand the battalion commander's intent.

b. **Concept.** The battalion commander's concept explains in broad terms how he visualizes the force as a whole achieving his intent. The concept is stated in sufficient detail to ensure subordinates act properly in the absence of further instructions. The battalion's concept guides the actions of the platoon. A reconnaissance platoon obtaining information for a specific company must understand how that information will assist that company in executing the overall battalion plan. At platoon level, the platoon leader states how the reconnaissance platoon will operate in support of the battalion plan. This allows subordinates to understand their relationship with the battalion and other elements within the platoon.

2-3. PLATOON COMMAND AND CONTROL

At platoon level, effective command and control depends on leadership, training, discipline, a sound SOP, and effective use of control measures

and communications techniques. In addition to controlling squads and keeping the battalion abreast of the tactical situation, effective command and control also reduces the potential for fratricide.

a. Leadership is the most important element of exercising command of the reconnaissance platoon. Orders are developed by the platoon leader and disseminated through the platoon sergeant and squad leaders. The platoon leader issues mission-type orders. He tells the squad leaders what he wants done, **not** how to get it done. The squad leaders use their experience, judgment, and knowledge of tactics, techniques and procedures to accomplish the reconnaissance platoon leader's plan.

b. Control of the reconnaissance platoon is difficult due to the decentralization of platoon operations. Squads are normally dispersed throughout the battalion's or platoon's area of operation. Graphic control measures assist the platoon leader in controlling the movement and actions of the squads. The platoon leader positions himself where he can best control the reconnaissance platoon. He maybe with the squad that has the most important task to accomplish, or he may operate separately from the squads. The platoon leader also directs where the platoon sergeant locates. Regardless of where the platoon leader and platoon sergeant are located, they must be able to control the squads and maintain a communications link with battalion.

Section II. COMMAND AND CONTROL PROCESS

The platoon leader uses the command and control process to determine what is occurring, to decide what to do about it, to tell soldiers what to do, and then to keep track of how well his soldiers are doing. The TLPs are the leader's tool to guide the command and control process. These procedures provide a common framework for all echelons of command to apply the command and control process. Other tools that are also part of the TLP include the estimate of the situation; mission, enemy, terrain, troops, time available (METT-T); observation and fields of tire, avenues of approach, key terrain, obstacles, and cover and concealment (OAKOC); intelligence preparation of the battlefield (IPB); and reconnaissance. The relationships among these tools are not fixed, since they are used in different combinations, depending on the situation. (Table 2-1, page 2-4.)

2-4. TROOP-LEADING PROCEDURES

Troop-leading procedures (TLPs) are the dynamic process by which a leader receives a mission, plans it, and executes it. TLPs should be an instinctive and familiar way of thinking for a leader. The TLP sequence is not rigid. It is modified to meet the mission, situation, and available time. Some steps are performed concurrently; while others may continue

throughout the operation. The TLP is a time-saver; as such, the leader conducts it in the order that most effectively uses the time available.

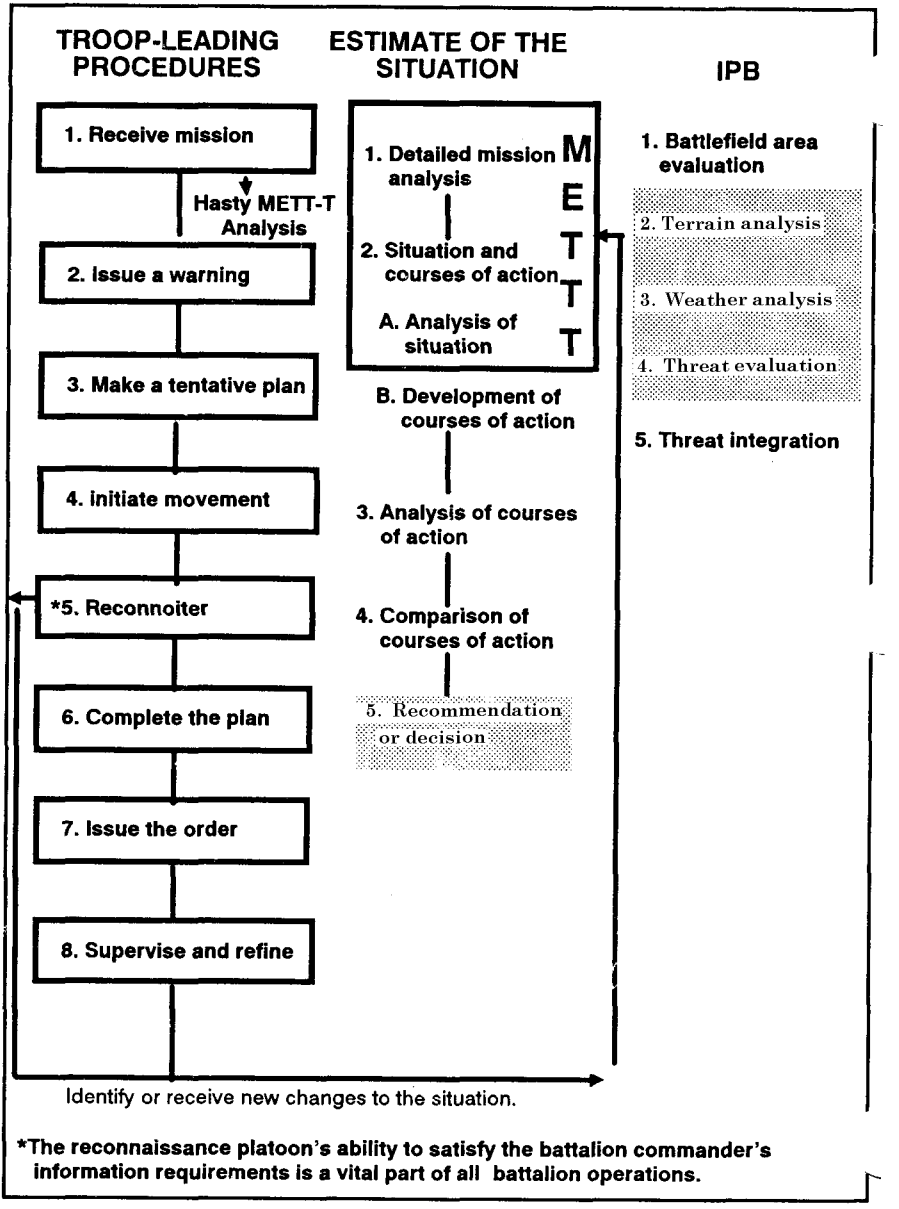


Table 2-1. Relationship between the tactitian's tool.

a. **Receive the Mission.** Once the battalion receives a change of mission from brigade, the battalion commander and his staff analyze their requirements and publish a warning order. This warning order normally tasks the reconnaissance platoon to move into a designated area to conduct reconnaissance. During the initial planning stages, the commander and his staff identify information requirements concerning the enemy and terrain. This information is obtained by the reconnaissance platoon, relayed back to the commander, then used to develop and adjust the battalion's plan.

(1) Upon notification of a change in mission, the platoon leader prepares a warning order for the reconnaissance platoon. Once the platoon leader receives the battalion's warning order, he conducts an initial METT-T analysis to determine the requirements for his warning order. If the reconnaissance platoon is located near the battalion main CP, the platoon leader coordinates with the battalion staff, particularly with the S3, S2, and the battalion commander for specific requirements. This coordination is important, especially if the reconnaissance platoon is going to depart the area.

(2) The platoon leader uses all available information to develop a time schedule. He identifies the actions (time-critical tasks) required to prepare his platoon for the operation. To do this, he considers information on the mission, enemy, terrain, and own troops. He conducts an initial reconnaissance (at least a map reconnaissance) to understand the time requirements for the mission. The platoon leader then develops his time schedule by starting at "mission time" and working backward to the current time (reverse planning). The mission time is normally the most critical time in the operation.

(3) The platoon leader ensures that all subordinate leaders have sufficient time for their own planning needs. Leaders at all levels should try to use no more than one-third of the available time for planning and issuance of the OPORD. This leaves the rest of the available time for squad leaders to use for their planning and preparation. The following is an example of a tentative reverse-planned time schedule. The platoon leader adjusts throughout the TLP process.

- 0600, battalion executes mission.
- 0400, update battalion.
- 0130, reconnaissance in position.
- 0100, establish ORP.
- 2300, begin movement.
- 2100, inspect squads.
- 1730, rest.

- 1645, eat.
- 1530, issue squad orders.
- 1430, briefback (squads).
- 1300, issue OPORD.
- 1045, coordinate route with S3.
- 1030, update platoon warning order.
- 1000, receive battalion OPORD.
- 0900, receive battalion warning order.

b. **Issue a Warning Order.** The platoon leader should issue the best warning order possible with the information at hand and update it as needed with additional warning orders. The warning order lets the reconnaissance platoon prepare for combat as soon as possible. Issuing a warning order involves a number of standard actions that should be addressed by SOP (see Appendix D). The warning order should address all necessary actions not covered in the SOP. The specific contents for each warning order vary based upon the tactical situation.

c. **Make a Tentative Plan.** The platoon leader, aided by the platoon sergeant, develops the reconnaissance platoon's tentative plan. This plan is based on information obtained from the battalion warning order, coordination with the staff, and METT-T analysis. The tentative plan may be nothing more than the platoon leader's concept, a mission statement, and movement instructions. The more information provided by battalion, the more detailed the tentative plan must be. The battalion's need for battlefield information and the time required to move into an area and obtain that information are critical. Ideally, the reconnaissance platoon obtains the information in time for the commander and staff to use it to adjust and finalize the battalion's plan. All members of the reconnaissance platoon must understand the importance of accomplishing the mission and how information obtained from the mission will affect the battalion during development of the battalion's plan.

d. **Initiate Movement.** The type of transportation used (foot, vehicle, aircraft, or watercraft) is normally dictated by battalion based on mission requirements and available assets. The platoon leader arranges to have the transportation means inspected at a specific time and place. He completes his estimate of the total time required for conducting movement based on the mode of transportation used. He briefs the reconnaissance platoon chain of command on the critical times, primary and alternate routes, and control measures.

e. **Reconnoitering.** The reconnaissance platoon is the battalion commander's primary reconnaissance element. The battalion commander

approves or alters the battalion's tentative plan based upon information obtained by the reconnaissance platoon. The platoon's reconnaissance efforts serve two purposes—first, to obtain information for the battalion commander and his staff; second, to confirm or deny the platoon leader's tentative plan. Adjustments are made at both battalion and platoon levels based on information obtained.

f. **Complete the Plan.** The platoon leader should bring his tentative plan close to completion after the initial reconnaissance. He continues to refine his plan based on new information from the battalion commander and staff. Coordination continues with all supporting agencies, higher headquarters, and adjacent units. Information the platoon leader obtains through this coordination and from the reconnaissance enables him to expand the tentative plan into a five-paragraph OPORD.

g. **Issue the Order.** The platoon leader, whenever possible, should issue the order while viewing the avenues of approach, the objective area, or both. He uses visual aids (sketches and terrain models) to ensure the order is understood by squad leaders. If he issues the tentative plan before conducting reconnaissance, he issues a FRAGO to finalize the plan before execution, if necessary.

h. **Supervise.** The best plan may fail if it is not managed correctly. Leaders must use briefbacks, rehearsals, inspections, and continuous coordination of plans to supervise and refine TLPs. Briefbacks and rehearsals are not the same; briefbacks focus on the planning process, and rehearsals focus on execution.

(1) Squad leaders should briefback the platoon leader immediately after the OPORD to ensure they understand the instructions. They should also briefback the squad's tentative plan. They may conduct the briefback collectively or individually. The collective method is preferred, because it allows exchange of information, coordination among squads, and rapid distribution of changes to the initial plan.

(2) Rehearsals are always conducted. They are essential to ensure complete coordination and subordinate understanding. The warning order should provide subordinate leaders sufficient detail to schedule and rehearse drills, SOPs, or both before they receive the platoon OPORD. Rehearsals should be conducted in an area similar to the objective and under similar light and weather conditions. Leaders can briefback individual tasks and use sand tables or sketches while they discuss the execution of the plan. The platoon always rehearses actions on the objective and other critical events that may affect the mission.

(3) The platoon leader checks the following during precombat inspections:

- Weapons and ammunition.

- Uniforms and equipment.
- Mission-essential equipment.
- Soldiers' knowledge and understanding of the mission and their specific responsibilities.
- Communications.
- Rations and water.
- Camouflage.

(4) The platoon leader or platoon sergeant coordinates with battalion staff and adjacent units. He ensures that all necessary coordination occurs, including coordination for fire support and engineer activities, maintenance, resupply, movement, and other required actions. Leaders must coordinate any adjustments to the plan, both before and during the operation, with the battalion commander and staff. During execution, the platoon leader issues FRAGOs to modify the plan as the situation develops. He personally supervises and or leads the critical actions.

2-5. ESTIMATE OF THE SITUATION

The estimate of the situation and the use of METT-T help the platoon leader determine his mission, understand his situation, and select the best course of action (COA) to accomplish his assigned responsibilities. The platoon leader uses the factors of METT-T when conducting the estimate. The estimate process is conducted as Step 3 of the TLP (Make a Tentative Plan). The estimate provides the platoon leader with a logical process for analyzing information pertaining to a tactical situation. The process can be detailed or it can be brief. The available time and experience of the platoon leader conducting the analysis are the determining factors. The estimate is a continuous process. As additional information is received or obtained through reconnaissance, the platoon leader decides if and how it affects his tactical situation. (See FM 7-10 and FM 7-20 for detailed discussion of conducting the estimate.) The estimate has five steps as follows:

1. Conduct a detailed mission analysis.
2. Analyze the situation and develop COAs.
3. Analyze COAs (war game).
4. Compare COAs.
5. Make a decision.

a. **Conduct Mission Analysis.** Mission analysis is the mental process a leader goes through to analyze a mission. Mission analysis begins upon receipt of an order. A battalion staff normally writes these orders and issues them to the orders group during an orders brief. When the tactical situation prevents the orders group from gathering to receive an orders

brief, the order is issued by radio. Though the reconnaissance platoon leader is normally part of the orders group, his proximity to the battalion leader prevents him from attending most orders briefs. Therefore, the platoon leader must be adept at conducting mission analysis from information acquired by radio. Mission analysis requires him to determine and understand the commander's intent and concept, the tasks the reconnaissance platoon must accomplish, any limitations on the platoon's freedom of action, time analysis, and the platoon's restated mission.

(1) ***Commander's intent and concept.*** The missions assigned to the reconnaissance platoon normally have an affect upon the battalion. Therefore, the platoon leader needs to understand how the platoon's actions tie in with the battalion's actions. The best way to obtain this understanding is to coordinate directly with the battalion commander. If this is not possible, the commander's intent and concept are stated in paragraph 3 (execution) of the operation order. (See Appendix E.)

(2) ***Tasks.*** The platoon leader determines the tasks the battalion wants the reconnaissance platoon to accomplish. Tasks are stated throughout the operation order, or they are shown on overlays. These tasks may relate specifically to the reconnaissance platoon or indirectly to the battalion.

(3) ***Limitations.*** Graphic control measures or instructions that restrict freedom of action are called limitations. Adhering to NET or NLT times often restricts a platoon's freedom of action. For example, the commander may specify that no reconnaissance will occur before 1500 hours or that the reconnaissance platoon must cross the LD at a specified time. Graphic control measures may restrict the platoon to a specific route or area.

(4) ***Time analysis.*** Proper and effective use of time is always a concern of the reconnaissance platoon. During mission analysis, the platoon leader adjusts the time schedule that was developed as part of the warning order. Time analysis may have a substantial effect on planning, preparation, and execution.

(5) ***Restated mission.*** The result of mission analysis is the determination of the reconnaissance platoon's mission. The restated mission is the tasks that enable the platoon and the battalion to accomplish its mission. The restated mission normally states WHO (reconnaissance platoon), WHAT (task), WHEN (the critical time), WHERE (grid coordinate), and WHY (the purpose behind the given task). An example of a mission statement is, "Reconnaissance platoon conducts zone reconnaissance of Axis Hammer NLT 301700 Nov 91 to determine presence and disposition of enemy forces within the zone." This mission statement becomes paragraph 2 of the reconnaissance platoon's operation order (OPORD).

b. **Analyze the Situation and Develop Courses of Action.** Once the platoon leader determines the reconnaissance platoon's mission, he then determines how the platoon can accomplish that mission. In order to develop a COA, he analyzes terrain and weather, the enemy situation and the enemy's most probable COA, and the friendly situation. After the platoon leader completes this analysis, he then uses this information to develop his COA.

(1) ***Analyze terrain and weather.*** Terrain and weather analyses are factors that are considered first, since they have the greatest effect on both friendly and enemy COA. The platoon leader analyzes the terrain in terms of its tactical aspects: Observation and fields of fire, avenues of approach, key terrain, obstacles, and cover and concealment (OAKOC). The platoon leader uses these factors to determine how the reconnaissance platoon can get the greatest use of the terrain. Weather is analyzed concurrently, since it may have a significant affect upon the terrain.

(a) *Observation and fields of fire.* Observation is the ability to see over a particular area to acquire targets with either optical or electronic line of sight. Systems considered include radios, radars, signal intelligence, collectors, and jammers, as well as optical systems. Field of fire refers to the area a weapon can cover effectively from a given point. The platoon leader looks for those areas that provide the reconnaissance platoon observation and fields of fire, especially observation.

(b) *Avenues of approach.* Avenues of approach are routes by which the reconnaissance platoon may reach an objective or key terrain. The platoon leader considers ground, air and, when in a MOUT environment, underground avenues or routes. The reconnaissance platoon may be tasked to identify or confirm avenues of approach. It evaluates these in terms of its—

- Potential to support maneuver.
- Access to the terrain and adjacent avenues.
- Degree of canalization.

(c) *Key terrain.* The platoon leader identifies any feature or area he can use to a tactical advantage. Determining key terrain depends on the echelon, mission, enemy, and situation. For example, a hilltop that provides the reconnaissance platoon an excellent area from which to observe the enemy may not offer any tactical advantage to the battalion. Once the platoon leader identifies key terrain in his area of operations, he uses that terrain to develop his plan. He can use key terrain to control movement or establish OPs.

(d) *Obstacles.* Obstacles are anything that stops, impedes, or diverts military movement. The obstacle's direct influence on mobility makes it one of the most important considerations in terrain analysis. The reconnaissance platoon maybe tasked to identify or confirm obstacles. It may look at potential areas that might impede movement of forces. This includes existing obstacles such as rivers, steep ridges, and so forth. It must also consider reinforcing obstacles such as minefield, antitank obstacles, and roadblocks

(e) *Cover and concealment.* Cover is protection from the effects of fire; concealment is protection from observation. The platoon leader looks primarily at areas that provide concealment. The indirect approach into an area normally provides concealment. In platoon operations, the reconnaissance platoon must remain undetected.

(2) ***Analyze the enemy and his most probable COA.*** The platoon leader must understand the enemy's doctrine and tactics. The battalion S2 is the primary staff officer responsible for providing information concerning the enemy. However, the battalion S2's analysis is based on a broader perspective with different concerns. The platoon leader must refine this information and narrow the focus on the enemy in his particular area. The focus of this analysis is to locate enemy strengths (to avoid them) and his weaknesses (to exploit them). The result is a detailed statement of the enemy's most probable COA. This analysis includes the following:

(a) *Composition.* Type of unit, weapons, or abilities.

(b) *Disposition.* How he is arrayed on the terrain, offensively or defensively.

(c) *Recent activities.* Recent and significant activities that may indicate the enemy's intentions.

(d) *Reinforcement.* Possible location of reserves, routes of counterattack forces.

(e) *Possible COA.* An estimate of how the enemy will defend or attack.

(f) *Weaknesses.* Doctrinal weaknesses, and or possible tactical weaknesses.

(3) ***Analyze friendly situation.*** The platoon leader must know the current status of the reconnaissance platoon and any attachments. The platoon leader must understand how adjacent and supporting units will affect his mission. How the reconnaissance platoon will be supported logistically, especially Class I and medical evacuation, is always a major concern. During this analysis, the platoon leader should adjust his time schedule based on current information.

(4) ***Develop a course of action.*** A COA is a possible plan that accomplishes the reconnaissance platoon's mission. The platoon leader considers all the information analyzed up to this point. Having a complete understanding of the mission, he develops his plan by incorporating the critical factors of terrain, enemy, and friendly situation. The following is a guide for developing a COA:

(a) Determine decisive points and times. If achieved, these will put the platoon in a position to accomplish the purpose as stated in the platoon's mission statement.

(b) Determine the results that must be achieved at the decisive points to accomplish the mission.

(c) Determine the purposes to be achieved by the main effort squad and the supporting effort squads.

(d) Determine what tasks to assign those squads.

(e) Determine how to task-organize for accomplishment of the platoon's mission, if necessary.

(f) Determine how to command and control the reconnaissance platoon.

(g) Establish control measures.

(h) Prepare a COA statement and sketch.

(i) Repeat this process for additional COAs.

c. **Analysis of Course of Action.** Once the platoon leader develops two or more COAs, he war-games them against the enemy's most probable COA. When war-gaming the COAs, he must use both the mission-specific and general factors to measure each one. Mission factors are those that have a significant affect upon mission accomplishment. They may include security of route, chance of being compromised, continuous operations, and logistical support. General factors may include characteristics of the offense or defense and principles of war. War-game techniques include box, belt, and avenue of approach. (For a detailed discussion on the usc of these techniques, see FM 7-10 and FM 7-20.)

d. **Compare Courses of Action.** The platoon leader's next step is to compare the COAs. This may require the platoon leader to do no more than choose the COA that he feels most comfortable with. The most common way to compare COAs is to use mission-specific and general factors to evaluate them. For example, if being compromised is significant, he determines which COA has the least chance of being compromised. This one is chosen over the others. (An example using a decision matrix is shown in Table 2-2.)

COAs FACTORS	COA 1	COA 2	COA 3
Chance of detection	+	_	0
Use of terrain	0	+	+
Sustainability	+	0	_
Command and control	+	+	_

Table 2-2. Course of action decision matrix.

e. **Make a Decision.** The results of the comparison in Step 4 helps the platoon leader choose a COA. He selects the COA that he believes offers the best chance of accomplishing his mission. Then he expands the COA into a plan. As the platoon leader receives additional information or as the situation changes, he considers how these affect his plan. The estimate process, like TLP, is a continuous process. The estimate can be an invaluable tool for the reconnaissance platoon, especially in a combat environment.

2-6. INTELLIGENCE CYCLE

Intelligence is an important part of every combat decision. The battalion commander *directs* units within the battalion to obtain information about the enemy and terrain. The reconnaissance platoon's primary mission is to *collect* information for the commander and his staff. The commander and his staff *process* and *analyze* this information to determine its value. Through analysis, this information becomes intelligence. Intelligence of a tactical value is *disseminated* to the subordinates that can use it. This process is known as the intelligence cycle. (The reconnaissance platoon's role in the intelligence cycle is shown in Figure 2-1 page 2-14.)

a. **Directing.** The intelligence effort begins by issuing these requirements-establishing priorities and then communicating information or collecting orders to subordinate elements. This is accomplished by the commander and his staff. The tools used by the commander and his staff are METT-T analysis and IPB. The battalion commander directs subordinates to obtain information based on the requirements generated by METT-T and IPB. Once the battalion determines the intelligence requirements, they are analyzed, consolidated, and prioritized. The most important intelligence requirements are designated as PIRs. These are

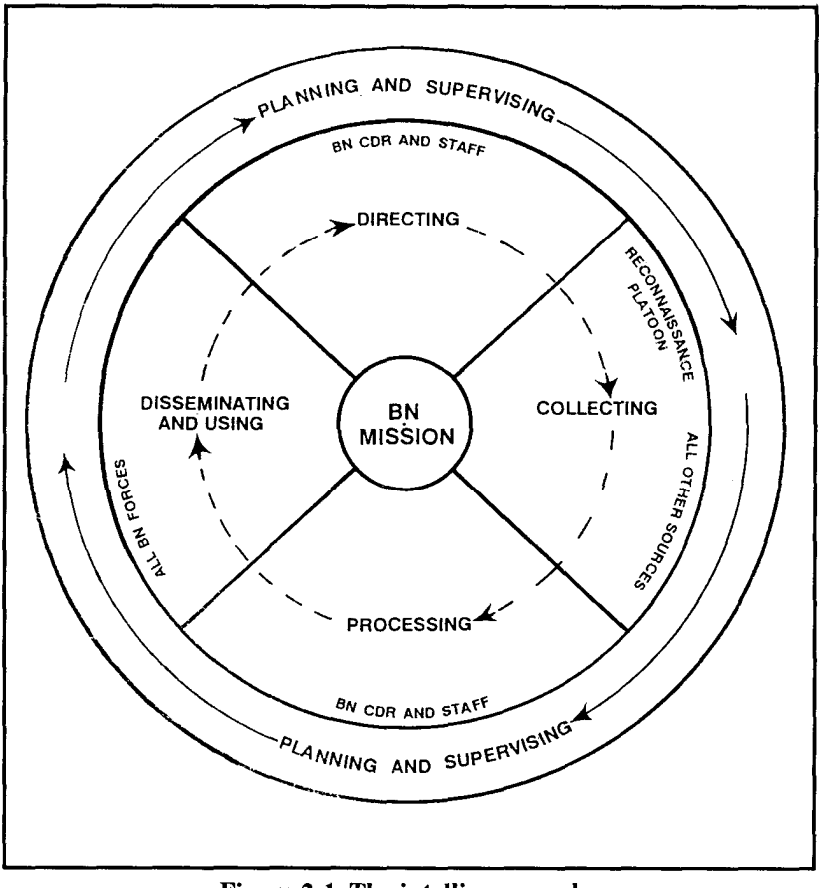


Figure 2-1. The intelligence cycle.

requirements for which a commander has an anticipated and stated priority in the task of planning and decision making. The reconnaissance platoon is normally tasked with obtaining information that answers the commander's PIR. Requirements of a lesser priority are designated as information requirements (IRs). These requirements are normally given to other collection sources (for example, GSR, infantry platoons, and squads). The battalion will task subordinates to conduct reconnaissance by developing a reconnaissance and security matrix (Table 2-3), which assigns specific responsibility for information collection. The tasking is accomplished by the battalion S3 and S2 subject to the battalion commander's approval. Reconnaissance is the battalion's primary means of collecting information.

PRIORITY MATCHES PIR NO	DESCRIPTION	START STOP	SPECIFIC ORDERS OR REQUEST	A	B	C	AT	RECON PLT	GSR	OTHER	COORDINATION	REPORTS
1	NAI 1 (GL634048) Ford of Brown River.	1600 0/0	When, where, what type of equipment is crossing the river first.					X			With B Co, for PP and route through its position.	AT PP, across LD, arrival at ford and hourly thereafter
2	NAI 2 (GL658113) Road junction.	1800 0/0	Report formations of 10 tanks or more. Are soldiers wearing MOPP gear?		X						With reconnaissance platoon leader, NAIs are in close proximity of each other.	Per Bn tactical SOP.
3	NAI 3 A Co's defensive position. Possible dismounted avenue of approach.	2000 to 2130	Conduct zone recon. Zone is bounded by river on west, Autoban 7 on east, clear stream on north, and ridge 207 on south. Is enemy establishing OPs within this zone?	X							With C Co, this sector extends in front of its defensive positions.	Per Bn tactical SOP.

Table 2-3. Reconnaissance and security responsibility matrix.

b. **Collecting.** The battalion commander employs the reconnaissance platoon to collect critical information. Other reconnaissance collection elements assist in the battalion's reconnaissance efforts. The reconnaissance platoon is normally tasked to obtain information that answers the commander's PIR. The battalion S2 has overall responsibility for monitoring the battalion's reconnaissance efforts. The platoon leader should coordinate with the S2 for specific guidance concerning reconnaissance since the S2 has detailed information on the terrain and enemy. During IPB, the S2 develops terrain overlays. These overlays contain detailed information on the terrain and should be used by the platoon leader to assist in terrain analysis. The S2 also develops a series of templates, which the platoon leader can use to obtain information as to how the enemy is expected to fight and on use of terrain. This information is also available to the reconnaissance platoon. Information collected by the reconnaissance platoon is critical to the intelligence cycle. The reconnaissance platoon must collect the right information in a timely manner and must send that information back to the battalion. The platoon leader may use a reconnaissance matrix to assign responsibility for squad reconnaissance (Table 2-4). The battalion commander depends on the reconnaissance platoon and other elements for information to assist him in the development of the battalion's plan. Inadequate information could result in an ill-advised plan. (Chapter 4 discusses the techniques used by the reconnaissance platoon in conducting reconnaissance.)

DESCRIPTION	OBSERVER CALL SIGN	PLANNED WINDOW OF OBSERVATION	ACTUAL WINDOW OF OBSERVATION	TARGET	REMARKS
NAI 1 (GL634048) Bridge crossing over Brown River.	A12	1600 to 0700		AB 105	Report any vehicle crossing.
NAI 2 (GL637049) Ford of Brown River	A13	1600 to 0700		AB 106	Report any vehicle crossing or engineer equipment.
NAI 3 (GL700055) Intersection of Highway 1 and Highway 5.	A14	1600 to 0700			Report number, type, and direction vehicles are moving on Highway 5.

Table 2-4. A platoon reconnaissance matrix.

c. **Processing and Analyzing.** Although the reconnaissance platoon is not directly involved in processing and analyzing information, it should be familiar with the process of how information is translated into intelligence. The reconnaissance platoon relays information gained through reconnaissance over the battalion operations and intelligence (O&I) net. The battalion S2 is responsible for controlling this net. Once the S2 receives information from the reconnaissance platoon and other sources, this information is recorded, evaluated, and analyzed. The battalion commander and his staff use this information to make tactical decisions. Intelligence is any information used in making tactical decisions. Information concerning the battlefield is never complete since the commander may generate additional requirements during the analysis. If additional information is needed, then the S3 and S2 task subordinates again to collect that information. The reconnaissance platoon continues to conduct reconnaissance until directed to execute another mission.

d. **Disseminating.** The final step in the intelligence cycle is to disseminate intelligence or information. Normally, there is a time lag between the time an enemy target presents itself and the time the information becomes available to an element that can react to it. The reconnaissance platoon's mission is to obtain information in a timely manner. This requires the platoon leader to anticipate the time required for conducting reconnaissance and understanding when the information is needed by battalion. Once the reconnaissance platoon obtains the information and passes that information to battalion, the battalion disseminates that information in a timely manner.

2-7. COMMUNICATIONS

The battalion's ability to command and control the reconnaissance platoon and the platoon leaders' ability to control his squads depend on FM communications. The primary means of communicating information is by FM radio. The battalion signal officer is responsible for planning, establishing, and maintaining communications with the reconnaissance platoon. The platoon leader assists the signal officer by maintaining the communication's link. When communications cannot be established, the signal officer, the reconnaissance platoon leader, and the affected RATELO identify the problem and correct it. Without effective communications, the reconnaissance platoon cannot perform its mission. (Appendix E discusses techniques and procedures for establishing and maintaining communications.)

CHAPTER 3
MOVEMENT

This chapter highlights the techniques and procedures considered by the reconnaissance platoon when conducting tactical movement. The reconnaissance platoon survives on the battlefield by using stealth and dispersion, and by maintaining security in all tactical movements. The planning and execution of movement are integral parts of all reconnaissance platoon operations. The reconnaissance platoon must employ the proper movement formation and technique when conducting movement. Regardless of parent organization, the reconnaissance platoon may be tasked to conduct movement by foot, helicopter, boat, or vehicle. This chapter discusses how the reconnaissance platoon uses those modes of transportation. Also, it discusses how the reconnaissance platoon is used as part of a battalion infiltration.

Section I. PLANNING

The reconnaissance platoon leader is responsible for planning and coordinating the platoon's movement. However, if rotary- or fixed-winged assets are used, the battalion staff accomplishes most of the planning and coordination. Also, the specifics of when, where, and how the platoon moves are directly linked to the battalion's plan. The general location of the reconnaissance platoon depends on the type of battalion operation—for example, offense, defense, or retrograde. In most cases, offensive or defensive operations require the reconnaissance platoon to operate forward or to the flank of the battalion. In retrograde operations, the reconnaissance platoon operates in the rear area of the battalion. When and how the reconnaissance platoon conducts movement is established by the battalion S3 with approval by the commander.

3-1. COORDINATION

Once the platoon leader understands when, where, and how the platoon is to move, he coordinates the specifics of the movement with the battalion S3. The platoon leader must always coordinate time requirements. The type of mission being conducted is key in determining time requirements. The platoon leader must advise the S3 on how much time he needs to conduct movement and also on how much time is required to perform his mission. This is important, especially when conducting reconnaissance operations. The reconnaissance platoon should not spend most of its time moving. Instead, this time should be spent reconnoitering. If the platoon

is establishing OPs to conduct surveillance, then the time considerations are different. Once the platoon leader advises the S3 of the time requirements, the S3 allocates enough time for movement or obtains transportation assets to move the reconnaissance platoon. The platoon leader briefs the staff on the movement plan. This prevents potential problems if the battalion changes its plan. For fixed- or rotary-winged movement, the battalion staff coordinates the details.

3-2. DETECTION

The reconnaissance platoon must be able to operate in enemy territory and remain undetected. Regardless of whether the platoon is en route to an objective or operating near an objective, the platoon takes all necessary actions to ensure it remains undetected. The probability of being detected is directly related to the reconnaissance platoon's mission. A platoon conducting reconnaissance has a higher probability of being detected than does a platoon conducting surveillance. The platoon leader considers the risks associated with each mission. The battalion commander assists the platoon leader by expressing his acceptance criteria—the acceptance of the risks associated with obtaining detailed information. During movement, the platoon uses stealth to exploit the natural cover and concealment of the terrain. When possible, the platoon moves when visibility is reduced such as during darkness, fog, snow, or rain. It uses rough, swampy, or heavily vegetated terrain to avoid detection. All members of a reconnaissance platoon must be masters of stealth. Leaders must be proactive in their efforts to avoid detection. (Appendix F discusses the action taken by the platoon when contact is made.)

3-3. SECURITY

Security involves not only the platoon's security but also the battalion's security. Security during movement includes those actions the reconnaissance platoon takes to protect itself and those tasks given to the platoon to provide security for the battalion. The platoon and squads enhance their own security during movement through the use of covered and concealed terrain; the use of the appropriate movement formation and technique; the actions taken to secure danger areas during crossing the enforcement of noise, light, and radiotelephone discipline; and the use of proper individual camouflage techniques. When tasked to screen the flank or front of the battalion, the reconnaissance platoon must ensure that the main body is not surprised by the enemy. This requires the reconnaissance platoon to move in relation to the protected force. (Screening operations are discussed in Chapter 5.)

3-4. FIRE SUPPORT

The platoon leader coordinates for fire support with the battalion FSO and, when possible, the mortar platoon leader. The FSO advises the platoon leader on available assets and possible target locations. The platoon leader requests necessary adjustments to the initial fire support plan based on his needs. The platoon leader also briefs the FSO on the platoon's route and final location. The platoon leader must ensure that targets are planned along the route. If the FSO is aware of the platoon's location, he can prevent possible calls for fire on the platoon. The FSO also advises the platoon of preplanned fires and locations where the use of indirect fires are prohibited. (See Chapter 7 for information on the reconnaissance platoon's use of fire support.)

Section II. MOVEMENT FORMATIONS AND TECHNIQUES

This section discusses how the reconnaissance platoon uses movement formations and techniques when conducting tactical movements. The platoon leader designates the appropriate movement formation and technique based upon analysis of METT-T and OAKOC (The organization of the reconnaissance platoon requires modification of the formations as found in FM 7-8.)

3-5. SQUAD FORMATIONS

Formations are arrangements of elements and soldiers in relation to each other. Squads use formations for control, flexibility, and security. Squad leaders choose formations based upon their analysis of METT-T and OAKOC or based upon guidance from the platoon leader. Squad leaders are up front in formations. This allows the squad leader to control the movement and location of individual soldiers. Each soldier within a squad or platoon formation is responsible for maintaining security for a designated area. Squad leaders or the platoon leader assigns additional duties such as compass man and pace man. These soldiers assist the leader with the navigation. The senior leader within a formation is always responsible for the navigation. When necessary, an alternate pace man and compass man can be designated. The wedge and file are the basic squad formations.

a. **Wedge Formation.** The wedge formation is the basic formation for the squad (Figure 3-1). The interval between soldiers in this formation is normally 10 meters. The wedge expands and contracts depending on the terrain. When rough terrain, poor visibility, or other factors make control of the wedge difficult, the wedge must be modified. The normal interval is reduced so that all members can see the squad leader. The sides of the wedge can contract to the point that the wedge resembles a single file.

When moving in less rugged terrain where control is easier, soldiers resume their original positions.

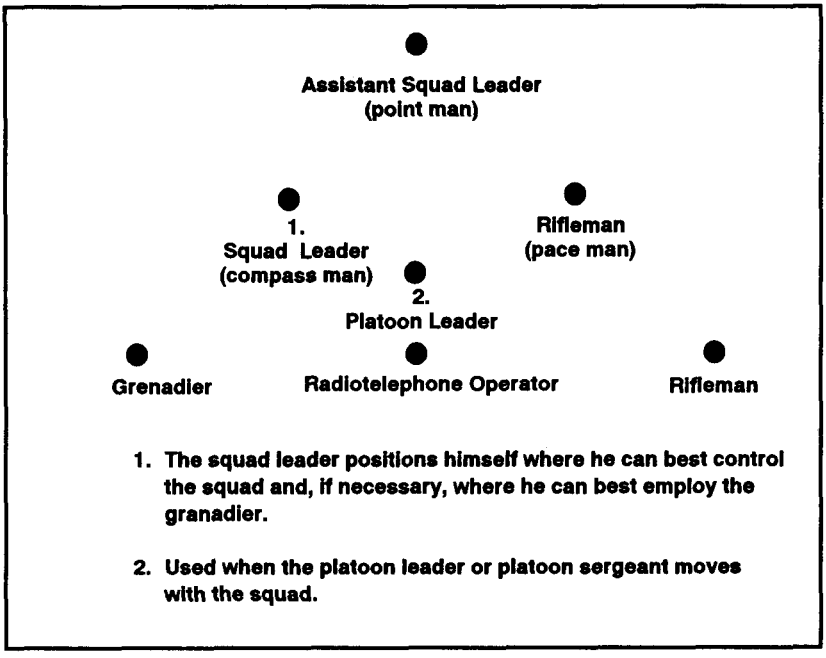


Figure 3-1. Squad wedge formation.

b. **File Formation.** When the terrain precludes use of the wedge or when operating during limited visibility, the squad uses the file formation (Figure 3-2).

WITH PLATOON LEADER	WITHOUT PLATOON LEADER
• Assistant Squad Leader • Platoon Leader/Compass Man • Rifleman/Pace Man • Radiotelephone Operator • Squad Leader/Alt Compass Man • Grenadier/Alt Pace Man • Rifleman	• Assistant Squad Leader • Rifleman/Pace Man • Squad Leader/Compass Man • Grenadier • Rifleman

Figure 3-2. Squad file formation.

3-6. PLATOON FORMATIONS

The reconnaissance platoon normally moves as separate squads under the control of the platoon leader or platoon sergeant. Although the platoon

moves by squads, there are times when the platoon leader chooses to move as a platoon. This decision is based upon METT-T and OAKOC. When moving as a platoon, the platoon moves in column, wedge, or file formations.

a. **Platoon Column.** The platoon column formation is the primary movement formation used by the reconnaissance platoon when moving as a platoon (Figure 3-3). It provides good dispersion both laterally and in depth and simplifies control. If contact is made, the lead squad becomes the base squad.

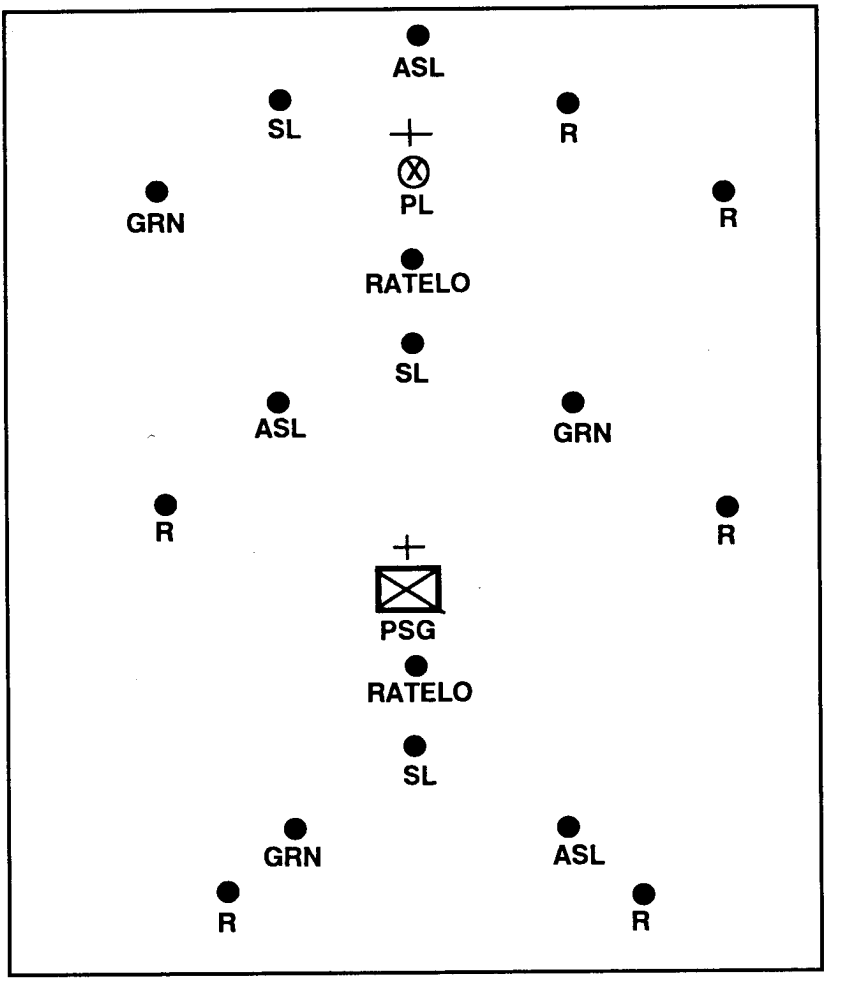


Figure 3-3. Platoon column formation.

b. **Platoon Wedge.** The platoon wedge formation has two squads in the rear that overwatch or trail the lead squad (Figure 3-4). It allows the platoon leader to make contact with a small element (squad) and still have one or two squads to maneuver. The lead squad is the base squad.

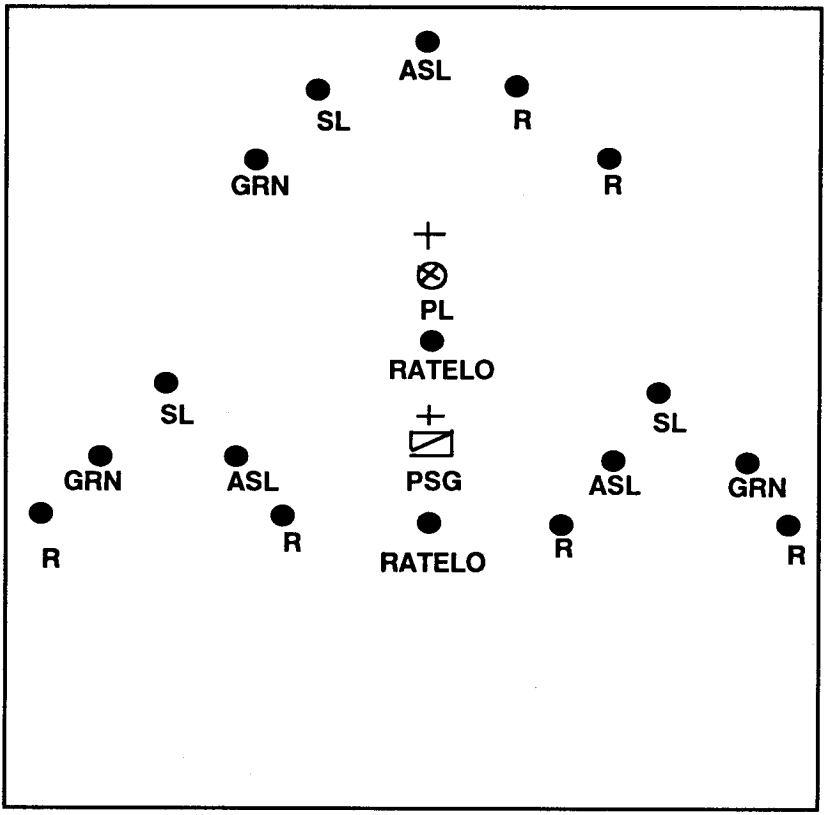


Figure 3-4. Platoon wedge formation.

c. **Platoon File.** The platoon file formation may be set up in several ways. One method is to have three-squad files follow one another using one of the movement techniques. Another method is to have a single-platoon file with a front security element (point) and flank security elements. This formation is used when visibility is poor due to terrain, vegetation, or light conditions. The distance between soldiers is less than normal; this allows messages to be passed up and down the file (Figure 3-5).

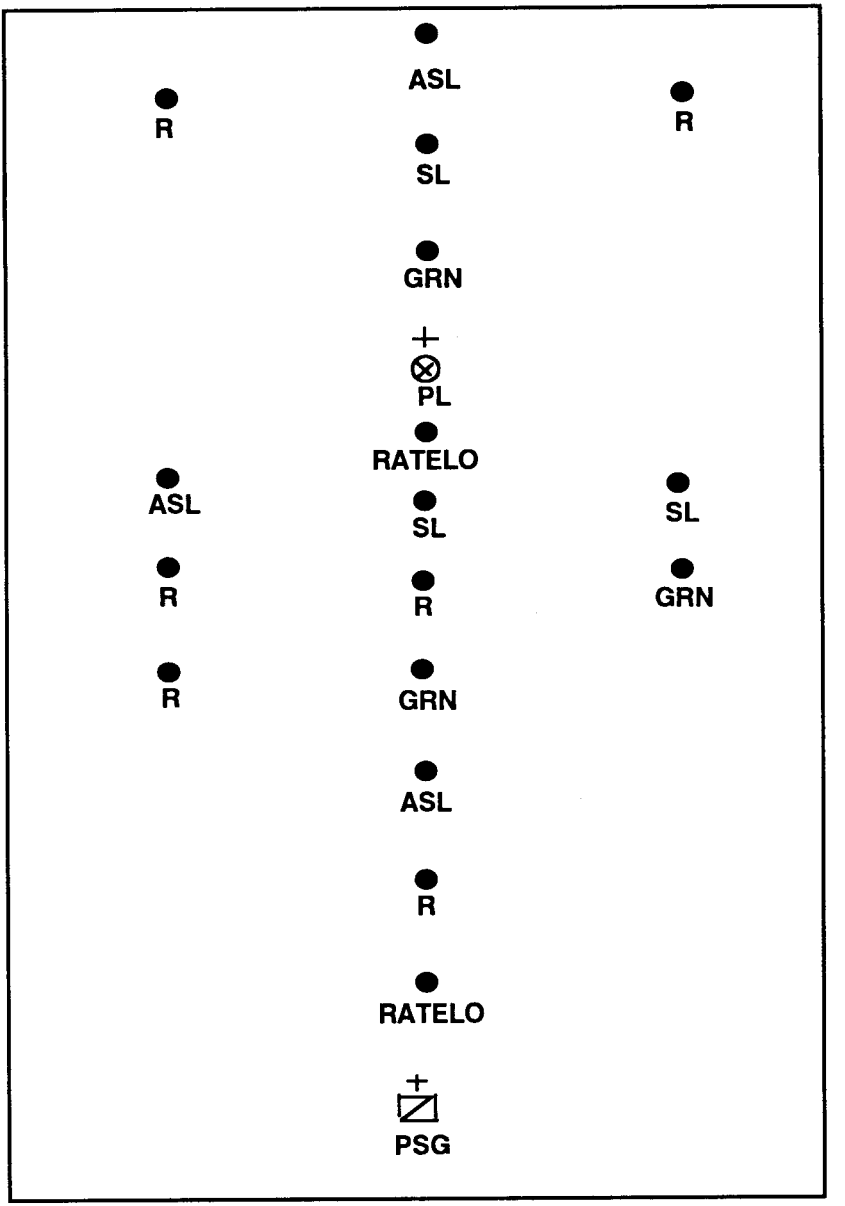


Figure 3-5. Platoon file formation with flank security.

3-7. MOVEMENT TECHNIQUES

A movement technique is the manner in which the reconnaissance platoon traverses terrain. The three movement techniques are traveling,

traveling overwatch, and bounding overwatch. The platoon leader selects a movement technique based on the likelihood of enemy contact and the need for speed. Factors considered for each technique are control, dispersion, speed, and security (Table 3-1).

MOVEMENT TECHNIQUE	WHEN NORMALLY USED	CONTROL	CHARACTERISTICS DISPERSION	SPEED	SECURITY
Traveling	Contact not likely	More	Less	Fastest	Least
Traveling overwatch	Contact possible	Less	More	Slower	More
Bounding overwatch	Contact expected	Most	Most	Slowest	Most

Table 3-1. Movement techniques, uses, and characteristics.

a. **Platoon Movement Technique.** The platoon leader determines and directs the movement technique that the reconnaissance platoon will use.

(1) ***Traveling.*** Use traveling when enemy contact is not likely and speed is needed (Figure 3-6).

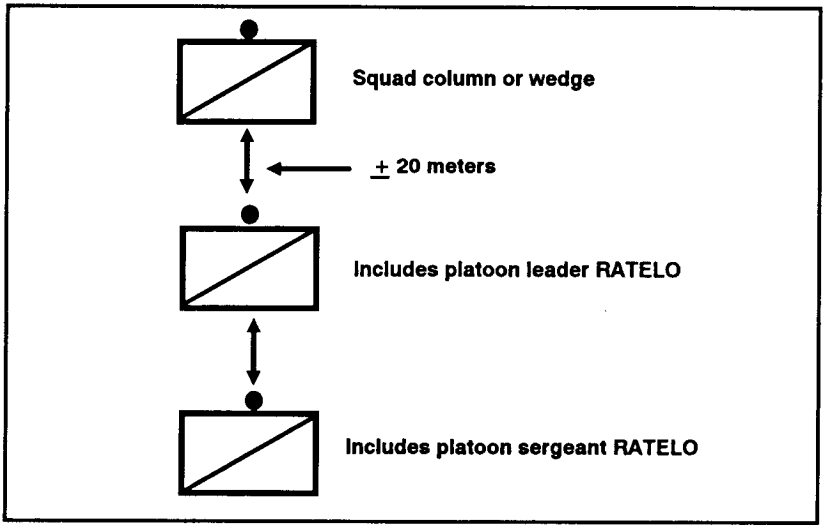


Figure 3-6. Platoon traveling.

(2) ***Traveling overwatch.*** Use traveling overwatch when contact is possible but speed is needed (Figure 3-7). The platoon leader moves where he can best control the platoon. The platoon sergeant travels with the trailing squad though he is free to move throughout the formation to enforce security, noise and light discipline, and distance between squads.

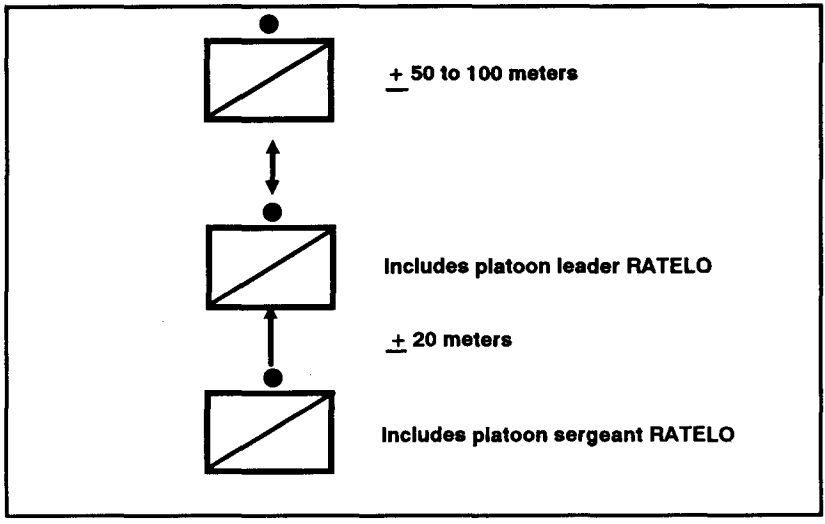


Figure 3-7. Platoon traveling overwatch.

(3) ***Bounding overwatch.*** Use bounding overwatch when contact is expected (Figure 3-8, page 3-10). The platoon leader makes the decision to use successive or alternate bounds.

(a) *One squad bounding.* One squad bounds forward to a chosen position. This element becomes the overmatching squad unless contact is made en route. The squad leader chooses the movement formation or individual movement technique for his squad.

(b) *One squad overmatching.* One squad overmatches the bounding squad from covered positions. The squad leader selects a position that allows the overmatching element to place direct fire in support of the bounding squad. Soldiers scan their assigned sector and maintain visual contact with the bounding squad, if possible. The platoon leader remains with the overmatching squad.

(c) *One squad awaiting orders.* One squad is uncommitted and ready for employment as directed by the platoon leader. The platoon sergeant and leader of the squad awaiting orders position themselves close to the platoon leader.

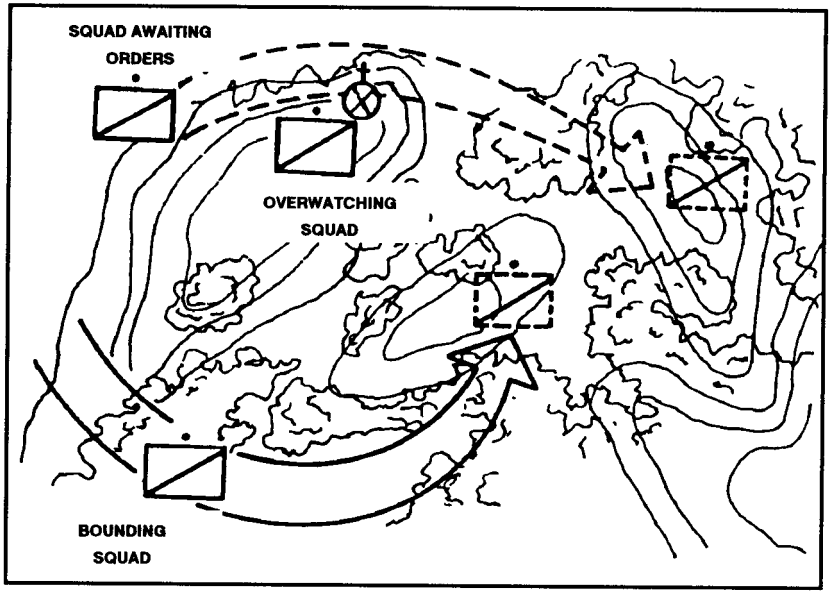


Figure 3-8. Platoon bounding overwatch.

(d) *Considerations.* When deciding where to have the bounding squad go, the platoon leader considers the following:

- Requirements of the mission.
- Where the enemy is likely to be.
- Ability of the overmatching element's weapons to cover the bound.
- Responsiveness of the rest of the platoon.
- Fields of fire at the next overwatch position.

(e) *Instructions.* Before a bound, the platoon leader gives an order to his squad leaders from the overwatch position. He tells and shows them the following:

- Direction or location of the enemy (if known).
- Positions of the overmatching squad.
- Next overwatch position.
- What to do after the bounding squad reaches the next position.
- What signal the bounding squad will use to announce it is prepared to overwatch.
- How the squad will receive the next orders.

Section III. METHODS OF MOVEMENT

For the reconnaissance platoon, organizing, planning, and conducting tactical movement should be second nature. The reconnaissance platoon conducts movement by foot, helicopter, boat, or vehicle. This section discusses techniques and considerations the reconnaissance platoon uses when conducting tactical movement.

3-8. FOOT MOVEMENT

Regardless of the means of transportation into an area of operation, the reconnaissance platoon eventually moves on foot to accomplish its mission. The ability of the platoon to accomplish its mission is directly related to how it uses the terrain. The reconnaissance platoon avoids enemy contact by using the most effective movement formation and technique and by maintaining security. When planning for movement, the platoon leader considers the following:

- Departure and reentry of friendly lines.
- Route selection.
- Land navigation.
- Control measures.

a. **Departure and Reentry of Friendly Lines.** The reconnaissance platoon must ensure that departure and reentry of friendly lines are coordinated and that everyone understands the plan. The platoon leader coordinates directly with the unit through which the platoon will pass. The battalion S3 provides a location and time for link up with the stationary unit. Once the platoon leader has this information, he coordinates the following:

(1) The leader provides—

- Identification (himself and his platoon).
- Number of personnel.
- Time and location of passage point (departure and return).

(2) The stationary unit provides—

- Terrain details.
- Obstacles and lanes.
- Known or suspected enemy locations or activity.
- Possible danger areas.
- Fire plan, patrols operating forward of the position.
- Signal and communications information.
- Code words, challenge, and passwords.

- Contingency plan for enemy contact.
- Casualty/vehicle evacuation assistance.
- Additional support that can be furnished.

(3) At the designated time, the platoon arrives at the linkup point and makes contact with the guide (Figure 3-9). The guide leads the platoon leader to the CP or directly to the passage point to make final coordination. The platoon moves to the IRP or occupies a security position and waits for the platoon leader to return.

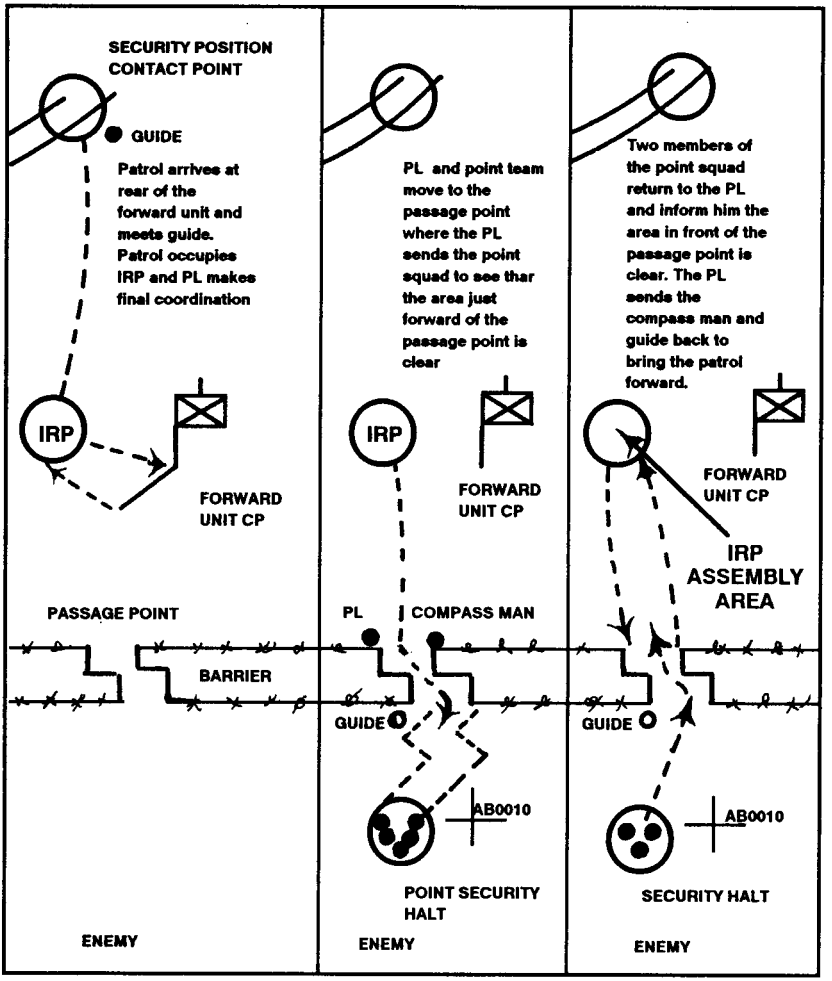


Figure 3-9. Departure from friendly lines.

(4) The platoon leader then makes the final coordination with the commander or his designated representative. The platoon leader is briefed on changes that have taken place and on recent enemy activity that could affect the reconnaissance platoon.

(5) Upon returning from final coordination, the platoon leader issues a FRAGO to cover changes. The technique for passing through friendly units depends on the situation. The three situations and techniques are—

(a) *Ambush and chance contact.* If the platoon leader learns the enemy is operating directly forward of the friendly position, he takes steps to avoid enemy contact. From the friendly side of the departure point, the reconnaissance platoon sends the lead squad to see if the area forward of the passage point is clear. The lead squad checks the area to identify an area large enough to allow the platoon to conduct a security halt or to maneuver if engaged. This area is normally close to a designated TRP. The lead squad notifies the platoon leader when the area is clear, then the platoon moves through the passage point to the designated area.

(b) *Indirect fire.* If the enemy is using indirect fire, the platoon should not halt after final coordination at the forward CP. It quickly moves through the friendly position to reduce exposure to enemy fire.

(c) *Night observation.* Enemy limited visibility capabilities are countered by taking the following countermeasures:

- Use a well-hidden passage point such as a reverse slope or dense woods.
- Infiltrate through the passage area and rendezvous in a covered and concealed rally point.
- Conduct passage when rain, fog, or snow helps to conceal the passage.
- Coordinate with the battalion S2 for employment of ECM.

(6) The platoon sergeant ensures that all members of the platoon are accounted for. He positions himself at the passage point and counts each soldier as they pass. Once the last soldier passes, the platoon sergeant notifies the platoon leader and moves through the passage point.

(7) The platoon conducts a security or listening halt after moving out of sight and sound of the friendly position. This is a short halt to accustom the reconnaissance platoon to the sights and sounds of the battlefield. The platoon halts in a position that provides cover from chance friendly small-arms fire.

(8) After the reconnaissance platoon accomplishes its mission, it may be required to reenter friendly lines. The initial coordination that took place for departure should have included the plan for reentry. If none was

made or when directed to pass through a different friendly position, coordination must be accomplished with the battalion S3 and the commander of the unit through which the reconnaissance platoon will reenter. This coordination is accomplished by radio. The items coordinated are the same as for departure.

(9) When reentering friendly lines, the reconnaissance platoon moves to and occupies the reentry RP. This point should be easily identified during limited visibility. The platoon leader notifies the commander of the friendly position that it has occupied the reentry RP and requests that a guide be sent to the contact point (Figure 3-10).

(10) The platoon leader then sends an element to the contact point to coordinate passage. Depending on the situation, the contact point can also be the passage point. Once contact with the guide is established, the platoon moves to the contact point and follows the guide through the passage point. The platoon sergeant accounts for all members of the reconnaissance platoon (Figure 3-10).

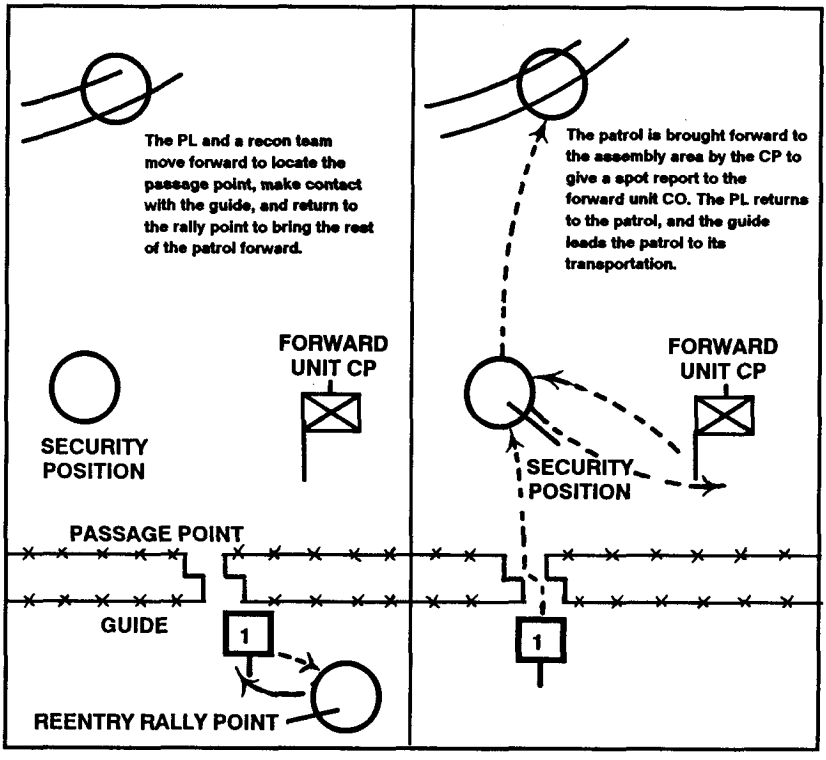


Figure 3-10. Reentry of friendly lines.

b. **Route Selection.** Upon notification by battalion to conduct movement, the platoon leader begins to analyze his proposed area of operation. The characteristics of the terrain and the enemy situation influence the selection of routes. If unfamiliar with the area, the platoon leader requests aerial photographs, terrain analysis overlays prepared by the S2, or talks with someone familiar with the area. The routes selected by the platoon leader should avoid contact with the enemy, local inhabitants, built-up areas, and natural lines of drift. The reconnaissance platoon always strives to reach its objective area without being detected. Selecting primary and alternate routes and dividing each route into legs (Figure 3-11) helps the platoon remain undetected by having planned changes in the direction of movement.

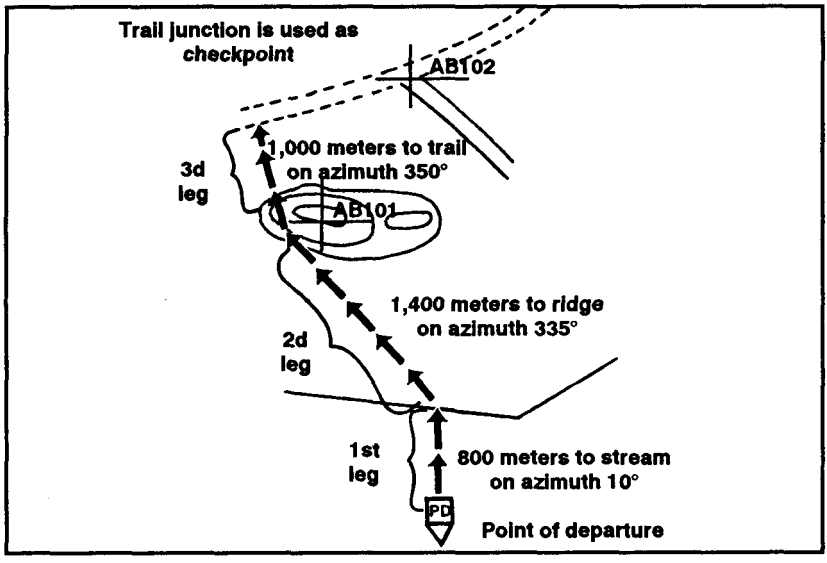


Figure 3-11. Route selection.

(1) ***Terrain analysis.*** To select a route, analyze the terrain in which the platoon will operate. Terrain analysis focuses on the military aspects of the terrain, known collectively as OAKOC. This analysis must be accomplished with an understanding of the mission and tactical situation.

(a) *Observation and fields of fire.* Seek routes that afford the platoon observation. Avoid areas that will expose the platoon to the enemy.

(b) *Avenues of approach.* Avoid likely avenues of approach. The enemy will probably have them under surveillance or covered by fire.

(c) *Key terrain.* Look for key terrain to aid in navigation and control; however, be aware that the enemy will most likely have it occupied or covered by fire.

(d) *Obstacles.* Seek routes that will not impede the platoon's movement. In some cases, the platoon selects a route that impedes movement but enhances security.

(e) *Cover and concealment.* Seek routes that help to conceal the movement of the platoon, thus, assists in avoiding detection by the enemy.

(2) ***Tactical consideration.*** The nature of the mission, time limitations, and the mode of transportation (mounted or dismounted) influence the selection of routes. Routes must avoid known or suspected enemy locations. Do not pick a route that parallels an enemy position. Enemy scouts and patrols look for signs of friendly activity. Avoid routes with obvious danger areas such as built-up areas, roads, and trails. The selection of a route varies according to the time of day. During daylight, use a route with heavy vegetation to protect the platoon from enemy observation. During limited visibility, use a route that affords silent movement. When possible, always move during limited visibility.

(3) ***Navigational consideration.*** The platoon leader selects prominent terrain features along the route and ensures everyone memorizes their location or sequence. These features are used as checkpoints or locations from which the direction of the route changes. The distance between checkpoints while moving along a route is determined by keeping an accurate pace count when walking or by using an odometer when traveling in a vehicle. Two techniques used to assist in navigation are the offset-compass method or box-in method.

(a) The offset-compass method is a preplanned deviation to the right or left of a straight-line azimuth to the platoon's destination. By using this method, the platoon leader knows whether he is to the left or right of his destination. Each degree of offset moves the platoon 17 meters right or left for each kilometer traveled.

(b) The box-in method uses natural or man-made features such as roads or streams that form boundaries for a route. By referring to these boundaries, any large deviation from the planned route can be recognized and corrected.

c. **Land Navigation.** Every member of the reconnaissance platoon, particularly the leaders, must be experts in land navigation. Superior land navigation skills should be inherent in all reconnaissance platoon soldiers. (See FM 21-26 for more information.) Important land navigation tasks that each soldier must master include:

- Locate a point using grid coordinates.
- Use a compass (day/night).
- Determine location using resection, intersection, or modified resection.
- Interpret terrain features.
- Measure distance and elevation.

d. **Control Measures.** The platoon leader controls the movement of his squads. The following is a list of several techniques that are available to assist the platoon leader in controlling the direction and speed of the squads:

- Arm-and-hand signals.
- Voice.
- Radio.
- Luminous tape.
- Time.
- Movement formations.
- Movement techniques.
- Rally points.
- Checkpoints.
- Phase lines.

3-9. AIR MOVEMENT

Air movement operations are those operations involving the use of Army airlift assets (other than air assaults). Air assault operations are those in which assault forces using the firepower, mobility, and total integration of helicopter assets maneuver on the battlefield to engage and destroy enemy forces and to seize and hold key terrain. The battalion staff plans and coordinates air assault operations. The reconnaissance platoon must understand its role and responsibility in air assault operations. (See FM 90-4 for detailed information on air assault operations.) When the battalion staff plans an air assault, it develops five plans. These plans, in order of importance, are the ground tactical plan, the landing plan, the air movement plan, the loading plan, and the staging plan.

a. **Ground Tactical Plan.** A successful air assault operation focuses on the commander's ground tactical plan around which later planning is based. The ground tactical plan for an air assault operation is basically the same as for any other infantry operation. The reconnaissance platoon's mission will be no different than from any other operation. It is still required to provide information to the commander. The only difference is the mode of transportation used to move the platoon.

b. **Landing Plan.** The landing plan supports the ground tactical plan. This plan sequences combat, CS, and CSS assets into the area of operations. The reconnaissance platoon may be inserted as part of the main body or may precede the main body. The commander makes this decision. If he needs to obtain information before deploying the main body, then the reconnaissance platoon would be inserted early. Insertion methods vary according to the training and availability of specialized equipment. The reconnaissance platoon can be inserted by parachute, fast rope, or rappelling. It may be required to provide information concerning the availability of landing zones. Each soldier needs to be familiar with the characteristics and requirements of landing zones. The platoon must also rehearse its action when exiting helicopters on a landing zone.

(1) ***Landing zones.*** LZs are the areas in which helicopters land and troops depart the aircraft. They are selected by the battalion commander (or his S3) with technical advice from an aviation liaison officer (ALO). Criteria for selecting an LZ includes:

(a) *Identification.* An LZ should be easy to identify from the air. Unless a soldier actually flies over the LZ, he cannot determine if the LZ is identifiable especially at night. Leaders mark the LZ with signaling devices to assist the pilots in locating the LZ. The code letter Y (inverted Y) is used to mark the landing point of the lead aircraft at night. Chemical light sticks or beanbag lights may be used to maintain light discipline. (Figure3-12) VS-17 panels or mirrors can be used during daylight.

(b) *Obstacles.* The approach and departure ends of an LZ should be free of tall trees, telephone lines or power lines, or similar obstacles that may interfere with helicopter landings or lift-off. Obstacles that cannot be removed should be marked with red. For planning purposes, an obstacle-clearance ratio of 10 to 1 is used on the approach and departure ends of the LZ or PZ. For example, a landing point requires 100 feet of horizontal clearance if a helicopter must approach or depart directly over a 10-foot-tall tree (Figure 3-13).

(c) *Size.* Size requirements depend on the type and number of aircraft. They are based on the least acceptable distances between aircraft (Figure 3-14, page 3-20). The following list provides the minimum diameter for landing points for a particular type of helicopter:

- Observation helicopters-25 meters.
- UH-1 and AH-1 helicopters-35 meters.
- UH-60 and AH-64 helicopters-50 meters.
- Cargo helicopters-10 meters.

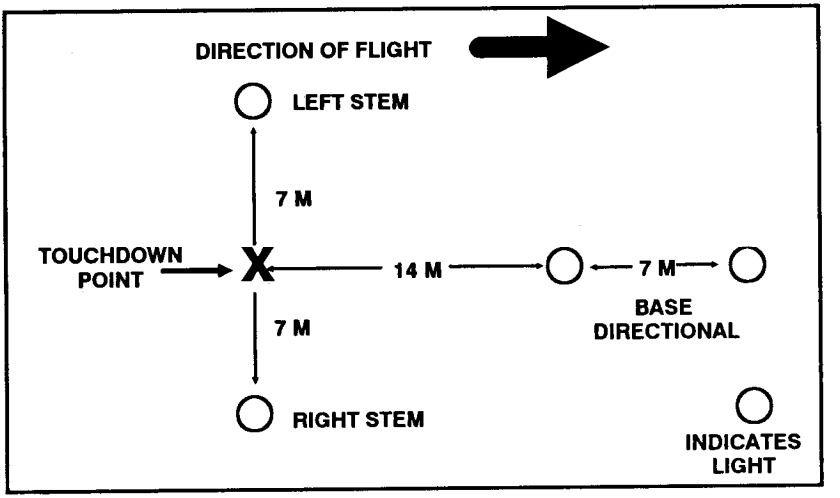


Figure 3-12. Inverted Y.

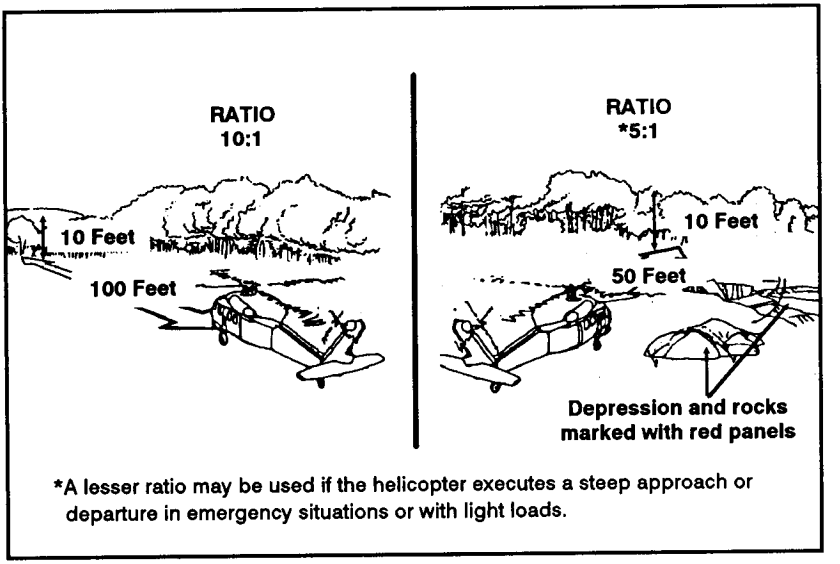


Figure 3-13. Obstacle considerations.

(d) *Ground slope landing. As* a guide, if the ground slope is 0 to 6 percent, the aircraft is landed up slope. If the slope is 7 to 15 percent, the aircraft is landed sideslope. If the slope is greater than 15 percent, the aircraft hovers to insert or extract soldiers and equipment.

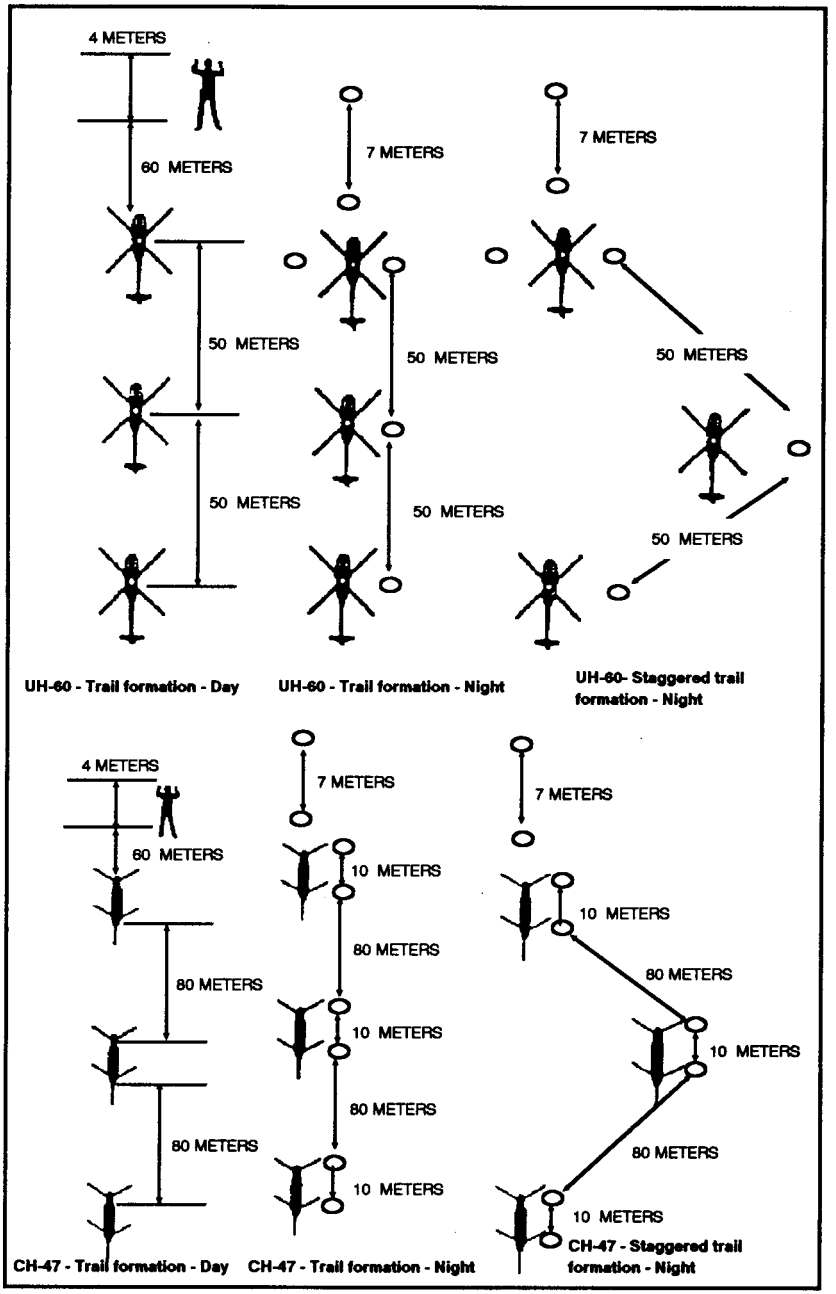


Figure 3-14. Landing more than one helicopter (day and night).

(e) *Surface conditions.* Surface conditions should not conceal the touchdown point or create hazards to landing (sand, blowing dust, snow). Any aircraft landing will cause debris to fly up. However, if the debris is excessive, it could prevent the pilot from landing. The pilot determines the severity of the problem as he attempts to land.

(f) *Approach/departure.* Aircraft approach and depart along the long axis of the LZ/PZ, over the lowest obstacle, and into the wind.

(g) *Enemy.* Landing zones are located away from enemy concentrations. The reconnaissance platoon conducts a zone reconnaissance to ensure enemy forces do not interfere with the landing plan.

(2) ***Landing zone operations.*** Just as there is a priority of work for defensive operations, there is a priority of actions on the landing in an LZ.

(a) Soldiers do not begin unloading the aircraft until directed by the crew chief or pilot (Figure 3-15). Before leaving the aircraft, the chalk leader checks the landing direction and grid coordinates with the pilot if not accomplished during the approach. This aids orientation to the LZ, especially at night.

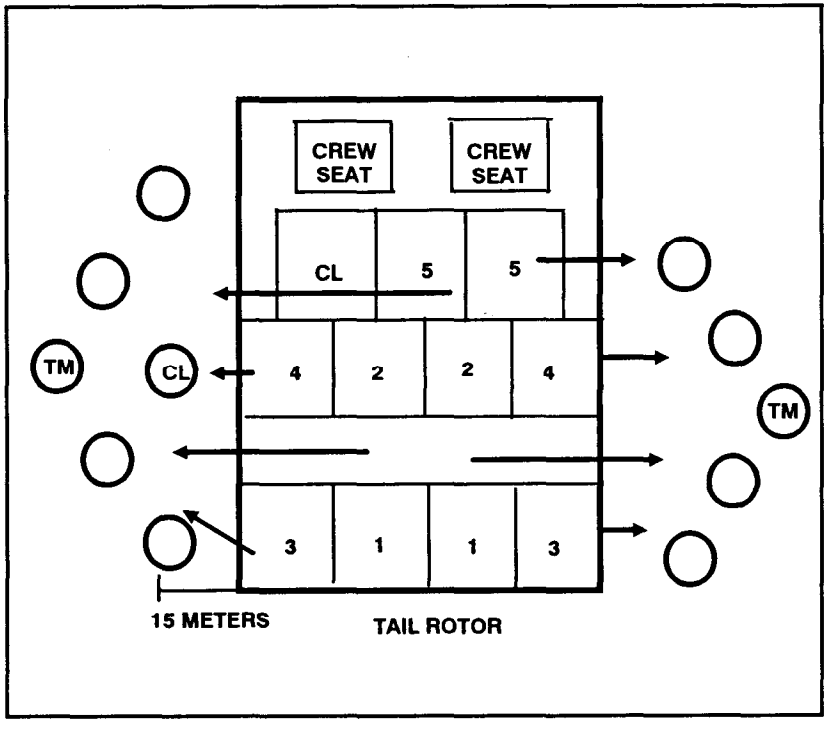


Figure 3-15. UH-60 unloading diagram.

(b) Once the aircraft has landed, soldiers unbuckle seat belts and exit as fast as possible. They move away from the side of the aircraft and assume the prone position. With their weapons ready, they face away from the aircraft until the aircraft leaves the LZ.

(c) The platoon leader consolidates the platoon by designating an assembly point. This can bean identifiable terrain feature or the nearest covered and concealed position. The platoon leader can also designate an azimuth to move off the LZ. Once the platoon is consolidated, it executes its assigned mission.

(d) If the decision is made to use a hot LZ or contact is made upon landing, soldiers quickly dismount and move away from the aircraft. They immediately return fire and attempt to gain fire superiority. The platoon leader notifies battalion that the LZ is hot. If the situation allows, soldiers fire and move off the LZ to the closest cover and concealment. Planned supporting fires are initiated by the ground or air element that first detects the enemy.

(e) Once disengaged from the enemy force, the chalk leader moves the chalk to a covered and concealed position, accounts for personnel and equipment, assesses the situation, and attempts to link up with the platoon or continues the mission IAW the previous instructions.

c. **Air Movement Plan.** The air movement plan is based upon the ground tactical and landing plans. It specifies the schedule and provides the instructions for air movement of troops, equipment, and supplies from PZs to LZs. The air movement plan is developed by the battalion with assistance from an ALO. It states instructions regarding air routes; air control points, aircraft speeds, altitudes and formations, allowable cargo load, and aircraft type and number.

(1) ***Air movement table.*** The air movement table provides information on what aircraft picks up who, the location of the pickup zone, the flight route, and loading, lift off and landing times. The platoon leader is normally briefed by the S3 air on the particulars of the air movement table. The flight route and the LZ location are important to the platoon leader.

(2) ***Flight route.*** The S3 air and the ALO develop the flight route. This is the general route the aircraft will follow. Normally, a primary and alternate route are planned. The flight route will have a start point, release point, and checkpoints that are used by the pilots to control movement and navigation. The reconnaissance platoon is briefed on the route and the checkpoints used along the flight route. These items are used by the reconnaissance platoon to track its location from the air. A strip map indicating the flight routes and checkpoints can be used instead of maps. Normally, the flight route uses more than one map sheet. The senior leader on an aircraft coordinates with the crew chief, or the pilot,

requesting confirmation of when the aircraft reaches the designated checkpoints. This information is disseminated to the chalk to allow them to follow the route.

(3) ***Flight times.*** The time it takes to load soldiers and equipment, fly the specified route, land the aircraft, and off-load soldiers and equipment is computed by the S3 air and the ALO. All soldiers must understand what these times mean in terms of movement. The most important time is H-hour. This is the time that the first aircraft lands at the LZ Indirect fire support and attack helicopter support use this time to coordinate fires on the LZ. Each flight route will also have an SP and RP. The RP time is important because it is the last checkpoint before landing. The RP is 3 to 5 km from the LZ. Once an aircraft reaches the RP, there is about 2 minutes left before arrival at the LZ.

d. **Loading Plan.** The loading plan is based on the air movement plan. It ensures that troops, equipment, and supplies are loaded on the correct aircraft. Maintaining platoon and squad integrity and cross-loading so that key leaders are not on the same aircraft are key points to remember when designating who will fly on what aircraft. The loading plan is based upon the type and number of aircraft available and the allowable cargo load for each aircraft. The S3 air designates the aircraft that the reconnaissance platoon uses and where the aircraft lands to pick up the soldiers. When traveling as part of the main body, the S3 air designates what lift and serial the platoon will fly in.

NOTE: A lift is the total number of aircraft available for a mission. A serial is the grouping of aircraft from a lift. For example, a lift of 16 aircraft may be broken down into four serials of four aircraft or two serials of eight aircraft.

(1) ***Loads.*** A load is designated by the personnel and equipment to be moved by a specific aircraft. An aircraft load may also be referred to as a chalk. Once the S3 air has determined what lift, serial, and load the platoon flies in, the platoon leader or platoon sergeant breaks down the reconnaissance platoon accordingly. They must know the ACL and the type of aircraft being used.

(2) ***Allowable Cargo Load.*** The ACL is the total number of personnel and cargo that can be carried on a certain type of aircraft. The ACL for the aircraft is determined by the ALO. Once this is determined, then the breakdown of the platoon is made according to the ACL. The ACL for the UH-60 is normally 11 personnel. (See Appendix D for loading configuration.)

e. **Staging Plan.** The staging plan synchronizes the arrival of soldiers, aircraft, equipment, and logistics support at the PZs. It is based on the loading plan. At platoon level, the staging plan is mainly concerned with the movement of the reconnaissance platoon from the AA to the PZ. The staging plan allows the platoon to start loading operations 15 minutes before the aircraft arrival time. In the staging area, the platoon leader organizes his soldiers and equipment. He must be flexible and ready to adapt to possible changes in the ACL and number of aircraft available.

f. **Safety.** The platoon leader and his subordinate leaders must enforce strict safety measures when working with helicopters. The main safety measures include the following:

- Using safety belts once inside the aircraft.
- Ensuring the weapons are unloaded (no rounds in the chamber) and on SAFE with muzzle down.
- Securing radio antennas (antennas are tied down).
- Securing hand grenades.
- Ensuring no jumping from a hovering helicopter unless told to do so by the crew chief.
- Securing material, which may be sucked into the engine or rotor blades.
- Ensuring no approaching from or departing to the rear of the helicopter.

3-10. VEHICLE MOVEMENT

The reconnaissance platoon does not have organic transportation assets. If the platoon must travel a great distance, the battalion commander can direct his staff to obtain transportation for the platoon. The purpose of obtaining transportation is **strictly for movement.** Once the vehicles have transported the reconnaissance platoon, the vehicles are released back to battalion. By transporting the reconnaissance platoon, soldiers are less fatigued and they have more time for executing the mission. The platoon leader plans for vehicle movement the same as he does for dismounted movement. The considerations differ in that it takes less time to move mounted.

a. **Planning.** The platoon leader is informed as to available transportation assets. The HMMWV or military truck is the primary asset available to move the platoon. The platoon leader organizes the platoon for movement by assigning each soldier to a specific vehicle and designating a navigator and vehicle commander for each vehicle.

(1) Route selection is based upon METT-T and vehicle abilities. Vehicles are limited to where they can travel. The route should include a start point and release point with checkpoints in between. The azimuth

and distance between checkpoints are determined. When the compass is used inside the vehicle, it is affected by the metal in the vehicle. When using the compass, the soldier should dismount and move away from the vehicle to take an azimuth reading. To determine the distance traveled, he uses the vehicle's odometer.

NOTE: Remember, 0.1 mile is equal to 160 meters; .6 miles is equal to 1,000 meters; and 1 mile is equal to 1,600 meters or 1.6 km.

(2) The weather can have a dramatic effect on route selection. Cross-country vehicles may be restricted to road movement in heavy rain. To avoid flooded or muddy areas, the platoon leader should adjust the route.

b. **Execution.** The vehicle commander and navigator are responsible for the command and control of the vehicle. They execute movement as briefed by the platoon leader.

(1) ***Vehicle commander.*** The vehicle commander, normally the squad leader, is responsible for organizing personnel on the vehicle. He ensures the vehicle is ready for movement. This is accomplished by questioning the driver about any mechanical problems and making sure the vehicle has enough fuel. He also assigns team members sectors of fire and air guards. The vehicle commander rides in the back of the vehicle.

(2) ***Navigator.*** The platoon leader plans the route. The navigator is responsible for following that route. However, there may be times when the route must be changed for tactical reasons. The navigator must ensure that the correct direction and distance are recorded and followed. He informs the vehicle commander when he reaches checkpoints.

3-11. WATER MOVEMENT

A waterborne insertion or extraction can be conducted when not expected by the enemy or when it is the only feasible method available. Waterborne insertion/extractions should be made at night, preferably during low-light illumination, or in conditions with reduced visibility. The battalion commander's decision to use inland and coastal waterways adds flexibility, surprise, and speed to tactical operations. The types of water infiltration/exfiltration include small boats, surface swimming, helocasting, or a combination of these.

a. **Planning.** The battalion commander and his staff provide the platoon leader with the necessary equipment to conduct water movement. The platoon leader is told what equipment is available and whereto link up with the equipment. The platoon leader organizes the platoon based on the number and type of equipment available (Figure 3-16. page 3-26). He plans the route to the objective area and ensures that everyone

understands how the platoon will move and execute their mission. (See FM 31-25 for more information.)

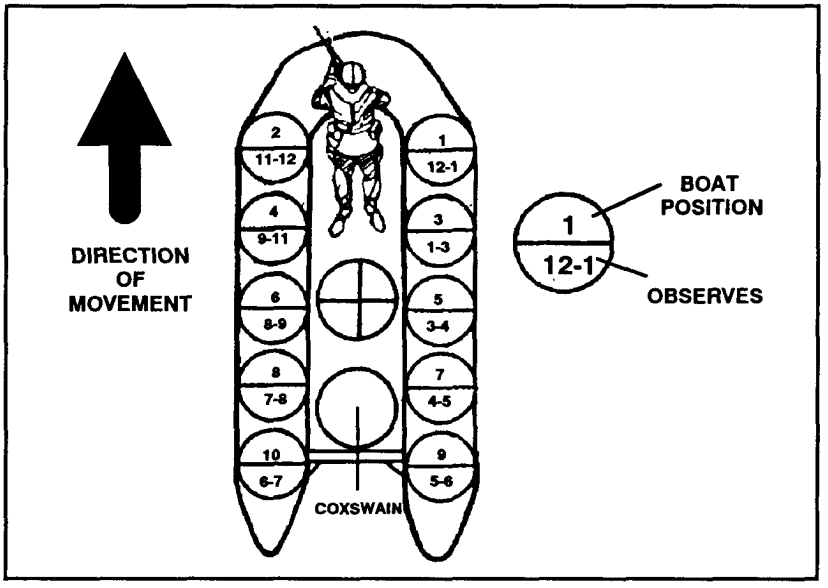


Figure 3-16. RB-15 boat positions.

(1) When planning, the platoon leader uses the reverse planning process as a guide to develop a timetable. The amount of time required for a small-boat movement is hard to determine. As a guide, a boat can sustain a speed of 3.7 km (2 knots) per hour using paddles. The following formula can be used to calculate time:

$$T\ (\text{time}) = \frac{D\ (\text{distance})}{S\ (\text{speed})}$$

EXAMPLE: D = 2 nautical miles S = 2.5 knots.
T = 2 divided by 2.5
T = 0.8 hour or .8 x 60 = 48 minutes.

(2) Once the platoon leader determines the time required for movement, he should revise the estimate as he progresses through the water. The landing site is where the reconnaissance platoon lands on shore. It should be located away from areas that attract people (especially other people using boats). The landing site should have cover and concealment that can be used to hide the boats. If the reconnaissance platoon plans to return to the site, a security team must stay with the boats.

b. **River Movement.** The platoon leader must know the characteristics of the river before embarking on river movement. The coxswain and the No. 1 man must watch the water for obstacles, overlapping vegetation, and projections from the bank.

(1) A **bend** is a turn in the river course.

(2) A **reach** is a straight portion of river between the curves.

(3) The **current** in a narrow part of a reach is greater than that in a wide portion. The current is greatest on the outside of a curve. Sandbars and shallow water are found on the inside of the curve.

c. **Inshore Navigation.** The squad leader is responsible for navigation. There are two acceptable methods of river navigation:

(1) ***Checkpoint and general route.*** Checkpoint and general route method is used when the drop site is marked by a well-defined checkpoint and the waterway is not confused by many branches and tributaries. It is best used during daylight hours and for short distances.

(2) ***Navigator-observer methods.*** Navigator-observer methods are the most accurate means of river navigation and can be used effectively in all light conditions. Equipment needed to do this is a compass, photo map (first choice), topography map (second choice), poncho (for night use), and pencil and flashlight (for night use).

(a) The navigator is positioned in the front of the boat and does not paddle. During darkness, he uses his flashlight under a poncho to check the map.

(b) The navigator keeps his map and compass oriented at all times.

(c) The navigator keeps the observer informed of the configuration of the river by announcing bends, reaches, and stream junctions as shown on the map.

(d) The observer compares this information with the bends, reaches, and stream junctions he actually sees. When these are confirmed, the navigator confirms the boat's location on his map.

Section IV. INFILTRATION

Infiltration is a form of maneuver. The commander directs companies and platoons to infiltrate when enemy positions are fortified. To avoid the enemy's strength, companies and platoons use stealth and move through gaps or around the enemy positions to conduct operations in the enemy's rear area. Infiltration allows the infantry to exploit its abilities. The reconnaissance platoon must reconnoiter infiltration lanes before movement of the battalion's main body.

3-12. PLANNING

An infiltration is accomplished in five phases. **First** the battalion that plans an infiltration must locate the gaps in the enemy lines and locate the enemy positions. The battalion S2 provides the reconnaissance platoon leader with information concerning where he anticipates these areas to be. **Second,** while this is happening, the remainder of the battalion conducts TLP. **Third,** the actual infiltration occurs along the designated infiltration lane. When moving along an infiltration lane, the battalion avoids enemy contact. The commander decides the size of the force moving along the lane. **Fourth,** forces consolidate. The reconnaissance platoon may be required to link up with infiltrating forces or maintain surveillance on the objective or a combination of both. **Fifth,** and final phase, assigned missions are executed. The battalion commander can use the reconnaissance platoon to mark the infiltration lanes. However, the reconnaissance platoon's primary mission during an infiltration should be focused on the objective. The platoon leader clarifies the platoon's primary focus with the battalion commander/S3.

3-13. TECHNIQUES

The battalion commander determines if the battalion moves along a single or multiple infiltration lane or zone. Forces moving along the infiltration lane are separated by space and time. The platoon leader decides to move as a platoon or as squads. The advantages of moving as a platoon are: faster movement, and easier control and navigation. When moving as squads, the likelihood of being detected is decreased because of the size. However, navigation, consolidation, and control are more difficult. If the battalion employs multiple lanes, the platoon leader must task organize to move along all lanes.. The overriding factor in determining whether to use single or multiple lanes is the ability to remain undetected.

a. **Single-Lane Infiltration.** Infiltration on a single lane is the least desirable technique, because it requires all infiltrating groups to move at intervals on the same lane. This technique is used only when, after an analysis of METT-T, it is evident that only one lane is feasible (Figure 3-17, page 3-29).

b. **Multiple-Lane Infiltration.** Soldiers infiltrate by multiple lanes when two or more infiltration lanes are found through the enemy defense (Figure 3-18, page 3-29). Assembly areas may be either in enemy or friendly areas depending on the situation. The platoon leader assigns lanes to the squads. The reconnaissance platoon normally uses no more than two lanes due to its size and limited resources.

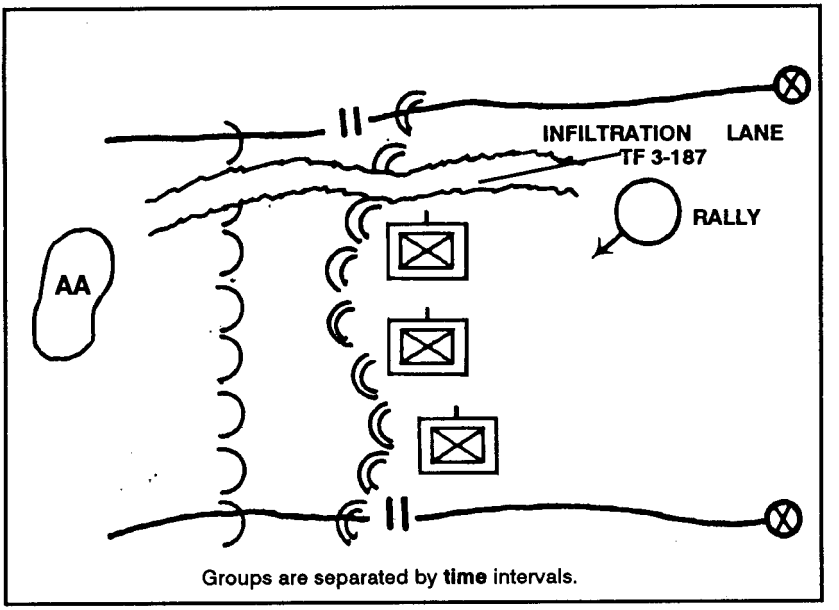


Figure 3-17. Single-lane infiltration.

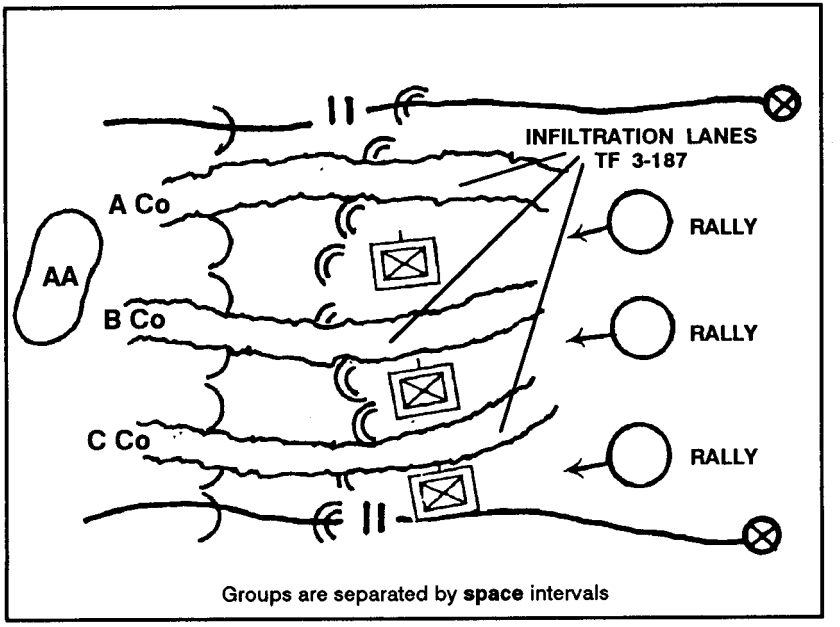


Figure 3-18. Multiple-lane infiltration.

c. **Combination of Methods.** Two or more lanes are used with more than one group using at least one of the lanes. This is the normal technique since enough lanes seldom exist for each group to have a separate one. Groups on different routes may move using different methods of insertion or extraction (for example, one group moves by boat on a river, another group moves by air, and another moves by foot).

d. **Rally Point.** Rally points should be chosen for all infiltrations / exfiltrations to aid in the controlling of movement.

(1) The first group to reach the RP establishes security and exchanges recognition signals with subsequent groups. All groups rehearse this procedure since it is not known which group will arrive first.

(2) Adequate time is allowed for each group to reach the RP. Groups may be delayed while avoiding enemy contact. Contingency plans should address what will be accomplished if a force fails to arrive or arrives late at an RP.

(3) An alternate RP must be designated. It is used if the primary RP is occupied by the enemy, is compromised, or is found to be unsuitable for any reason before the platoon reaches it. Signals are planned to direct movement to the alternate RP. The contingency plan must allow time for groups to reach the new (alternate) RP.

e. **Techniques to Enhance Movement.** Techniques to enhance movement are movement formations and noise discipline.

(1) ***Movement formations.*** Movement formations must enhance stealth and security. The platoon leader considers the formation that is best suited to avoid enemy detection.

(2) ***Noise discipline.*** Many steps can be taken to improve noise discipline.

(a) Taping weapons, swivels, LCE, identification tags, and other noise-making equipment.

(b) Wearing old socks over boots.

(c) Inspecting to ensure equipment is silenced.

CHAPTER 4
RECONNAISSANCE

Reconnaissance is a mission to obtain information by visual observation or other detection methods, about the actvities and resources of an enemy or potential enemy, or about the meteorologic, hydrographic, or geographic characteristics of a particular area. It also produces tactical information, which is a by-product of all operations. Reconnaissance is performed before and during all combat operations. It focuses on obtaining information for the commander and his staff. This information is evaluated and used to confirm, modify, or formulate plans. The reconnaissance platoon functions as the commander's primary reconnaissance asset. The battalion S2 and S3 are responsible for developing and organizing the battalion's reconnaissance effort.

4-1. FUNDAMENTALS

The following fundamentals are used for planning and execution of a reconnaissance operation.

a. **Gain All Required Information.** The battalion S2 and S3 are responsible for coordinating and directing the battalion's reconnaissance effort. During the intelligence cycle, the commander and his staff identify priority information requirements (PIRs). This information is critical to the commander, since it affects his plan. The PIR forms the basis of the battalion's reconnaissance plan. The S2 and S3 develop a reconnaissance and surveillance matrix. This matrix specifies the information that is needed and assigns responsibility for obtaining that information. The battalion commander or S3 briefs the reconnaissance platoon leader on the specifics of the reconnaissance mission. During this brief, the platoon leader ensures that he understands the commander's expectations. Failure to do so can result in information that serves no purpose for the commander. The platoon leader also ensures that the reconnaissance platoon understands the specific reconnaissance requirements and the purpose of the reconnaissance. The reconnaissance mission is complete once all information is collected and transmitted to the correct headquarters or when directed to do so. All information gathered should be disseminated to all members of the patrol.

b. **Avoid Detection by the Enemy.** The reconnaissance patrol must not let the enemy know it is in the objective area. The key is to see and not be seen. If the enemy suspects that it is being observed, it may move its elements or increase security measures as part of counterreconnaissance. Movement in the objective area is reduced. The patrol moves no closer to the objective than necessary. Adequate time must be allocated

for the actual reconnaissance. The patrol also exploits the technical advantages of their equipment, such as NODs, to gain information. The patrol uses camouflage, discipline, and stealth to help avoid detection. They plan routes to avoid the effectiveness of enemy radar and RSTA devices. By reducing radio traffic, the platoon reconnaissance patrol limits the possibility of being detected by enemy RDF devices. Battlefield situations occur in which a reconnaissance patrol makes unexpected contact with the enemy. These situations may occur by chance, because a patrol moves too close to an objective. A technique for addressing these contingencies is to brief soldiers on situations concerning enemy contact, and the risks the platoon leader will accept to obtain information.

(1) Although the intent of a reconnaissance patrol is to avoid enemy contact thus preserving tactical integrity, every soldier should know what action to take upon enemy contact. The platoon leader establishes engagement criteria. He ensures that the soldiers understand the criteria by asking questions that affect the engagement decision (Figure 4-1). Engagement criteria applies also to security elements.

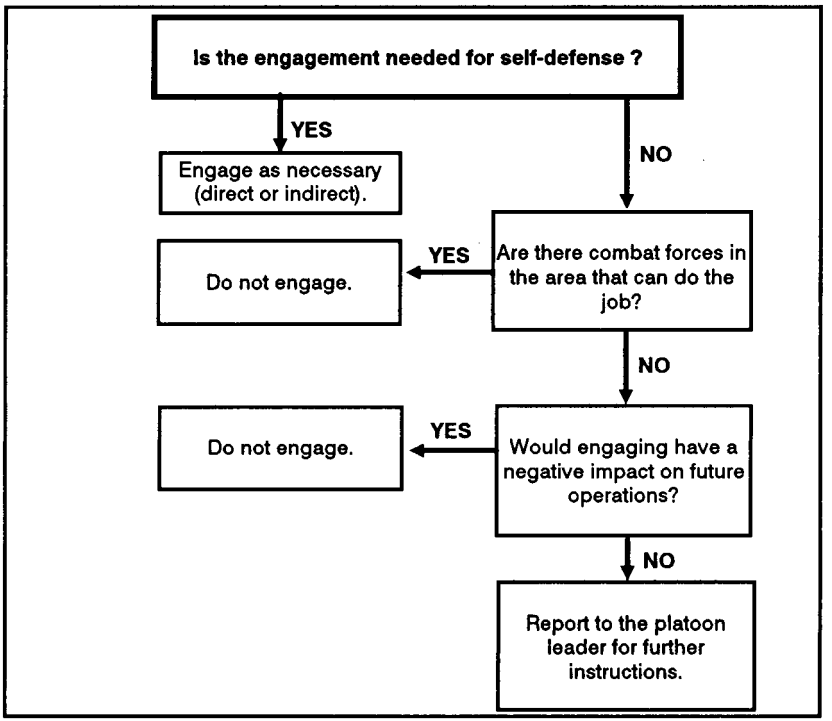


Figure 4-1. Engagement decision questions.

(2) **The** other criterion that soldiers need to know is risk acceptance, which is closely tied to the commander's intent. The battalion commander tells the platoon leader how much risk he should take in order to obtain information. If the commander is not willing to accept much risk, then he is not going to receive detailed information. The type of information needed by the commander often determines the risk of obtaining that information. If the commander wants a detailed sketch of the objective, he accepts the risk that the reconnaissance platoon will have to move close to the objective. If the commander wants general information, such as a location of an objective, then the risk of obtaining that information is less. The platoon leader ensures that the soldiers understand the risk involved in obtaining information. Soldiers do not always need to get close to an objective to obtain information.

c. **Employ Security Measures.** If detected, a reconnaissance patrol breaks contact and returns to friendly lines with the information it has gathered, or it continues the mission. The patrol rehearses plans for breaking contact, which includes handling casualties. The platoon leader organizes the reconnaissance platoon into reconnaissance and security squads. The actual organization is based upon METT-T. One method of organizing the platoon is to have separate reconnaissance and security squads. Another method is to combine the two elements (Figure 4-2).

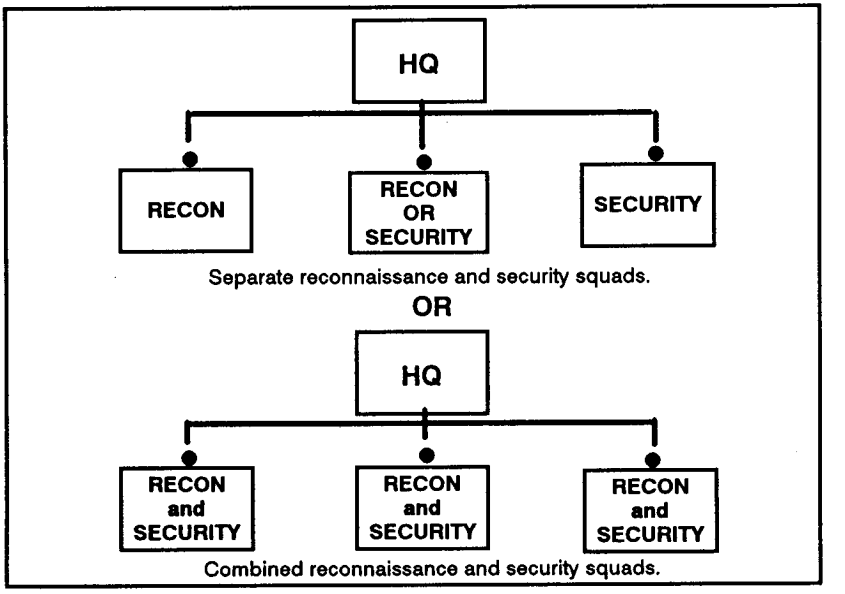


Figure 4-2. Reconnaissance orgainzation.

When using separate squads, the platoon leader can designate two squads as reconnaissance squads and one squad as a security element (or two squads as security squads and one squad as a reconnaissance element). These methods of organization are used when the platoon is reconnoitering one objective. When the platoon is reconnoitering separate objectives, the squads are organized as combined reconnaissance and security. Within a squad, a security element should consist of at least two soldiers.

4-2. PLANNING

The platoon leader uses the estimate process to develop the reconnaissance plan. Squad leaders develop the plan based upon the reconnaissance platoon leader's plan. Every soldier should have an understanding of the reconnaissance platoon's plan and the squad's plan. To ensure everyone understands the plan, the platoon leader conducts rehearsals and briefbacks. The platoon sergeant assists the platoon leader in the development of the plan and coordinates support requirements. An example of items that are essential to reconnaissance planning is as follows:

a. Composition and task organization of the reconnaissance element.

b. Information to be obtained through reconnaissance.

c. Movement routes and formations to the reconnaissance site.

d. Actions at the objective and use of control measures.

e. Special instructions to members of the reconnaissance and security elements.

f. Special equipment to be used during the reconnaissance,

g. Contingency plans such as—

- Actions on contact.
- Actions if the reconnaissance party does not return.
- Evacuation of casualties.

h. Stay-behind surveillance.

i. Indirect-fire support for the movement and the reconnaissance.

j. Special communication arrangements.

k. Withdrawal plan from the reconnaissance site.

l. Plan for dissemination of information acquired during the reconnaissance.

m. Deadline for reporting information to higher headquarters.

4-3. SENSORY TECHNIQUES

A soldier's ability to effectively use their senses, along with the ability to move and observe without being detected, is critical to effective reconnaissance. Equipment supplements the senses, enabling the observer to

accurately portray the combat environment. Senses consist of sight, hearing, touch, and smell. Examples of sensory use areas follows:

a. **Sight.** A soldier looks for—

- Enemy personnel, vehicles, and aircraft.
- Sudden or unusual movement.
- Smoke or dust.
- Unusual movement of farm or wild animals.
- Activity of local inhabitants.
- Vehicle or personnel tracks.
- Signs or evidence of enemy occupation.
- Recently cut foliage or vegetation.
- Muzzle flashes, lights, fires, or reflections.
- Amount/type of trash.

b. **Hearing.** A soldier listens for—

- Running engines or track sounds.
- Voices.
- Metallic sounds.
- Gunfire (by type of weapon).
- Unusual calm or silence.
- Dismounted movement.
- Aircraft.

c. **Touch.** A soldier feels for—

- Warmth of coals/materials from fires.
- Freshness of tracks.
- Age of food or trash.

d. **Smell.** A soldier smells for—

- Vehicle exhaust.
- Burning petroleum products.
- Cooking food.
- Age of food or trash.
- Human waste.

4-4. AREA RECONNAISSANCE

An area reconnaissance is a directed effort to obtain information concerning the terrain or enemy activity within a prescribed area, such as a bridge or other features that are critical to operations. A reconnaissance element, given the mission of conducting an area reconnaissance, obtains the

required information by reconnoitering the location or area or by maintaining surveillance over the location. Based on METT-T, the platoon leader assigns the task of conducting an area reconnaissance to individual squads or he may use the entire reconnaissance platoon. When using individual squads to conduct an area reconnaissance, the platoon leader or platoon sergeant locates with a squad or selects a position from which the actions of the squads can be controlled. A reconnaissance patrol uses long-range and short-range observation and surveillance when executing reconnaissance. Other methods can be developed as long as the fundamentals of reconnaissance are applied. Single or multiple R&S teams can be used with either method. The security measures are based upon the situation. The major actions required of an area reconnaissance are: movement and occupation of the ORP, leader's reconnaissance, actions at the objective, and withdrawal and dissemination of information.

a. **Objective Rally Point.** During planning, a tentative ORP is selected based on a map reconnaissance or, if possible, a physical reconnaissance. The ORP should have cover and concealment, be easy to defend for a short period, be easy to locate, and be close enough to the objective to reduce control problems. The platoon leader selects the technique for occupying an ORP. Every member of the reconnaissance platoon must understand how to execute this task. The triangle technique can be used for occupying an ORP (Figure 4-3, page 4-7) or for occupying patrol bases and rendezvous points. The actions while in the ORP involve final preparation for the leader's reconnaissance and actions at the objective. If the ORP is occupied by a squad, two soldiers are left to secure the ORP. The other three soldiers conduct the reconnaissance and provide security. The squad leader may choose to cache equipment in the ORP and take the entire squad on the reconnaissance.

b. **Leader's Reconnaissance.** A leader's reconnaissance is conducted during an area reconnaissance. A leader's reconnaissance allows the platoon leader/squad leader to determine whether the plan for actions at the objective needs to be modified and to ensure smooth execution of the reconnaissance. A leader's reconnaissance of an objective may include the following tasks:

(1) Pinpoint the objective. If possible, accomplish this by checking terrain features in the area, not by directly approaching the objective.

(2) Locate observation or surveillance positions, routes, and security positions the squads will use.

(3) Determine or confirm the enemy situation in the objective area, locate enemy OPs, determine enemy security status and activity, and adapt the patrol to the local sounds in the area.

(4) Designate the release point and the positions for the reconnaissance and security elements.

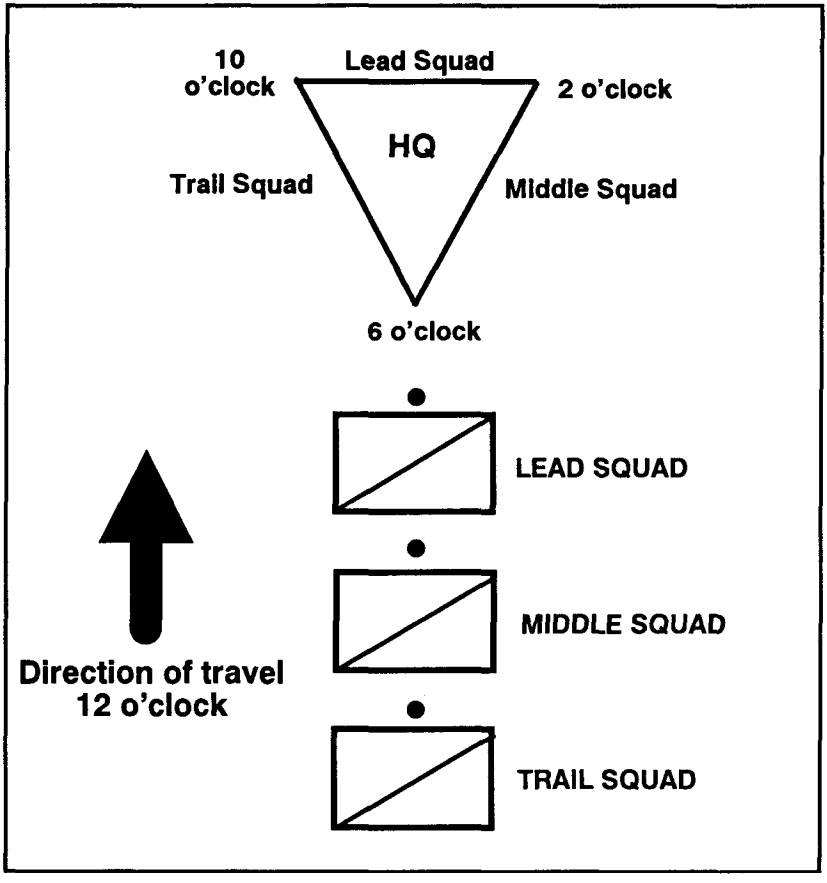


Figure 4-3. Occupation of an ORP using the triangle technique.

c. **Actions at the Objective.** Once the objective has been pinpointed, designated elements conduct the reconnaissance. The reconnaissance elements view the objective from as many locations as necessary. Movement in and around the objective must be cautious and slow. The security elements, if separate from the reconnaissance elements, occupy a position that, if necessary, allows placement of direct or indirect fire on the objective. The reconnaissance patrol leader decides how indepth the reconnaissance will be. A thorough and accurate reconnaissance is important. However, avoiding detection is equally important. Two techniques for

conducting reconnaissance are long- and short-range observation and surveillance.

(1) Long-range observation or surveillance is the observation of an objective from an OP (Figure 4-4). It must be far enough from the objective to be outside enemy small-arms range and its local security measures. This method is used whenever METT-T permits the required information to be gathered from a distance. Long-range observation is the most desirable method for executing an area reconnaissance, since the patrol does not come in close enough to be detected. Also, if the patrol is discovered, direct and indirect fires can be employed on the objective without endangering the patrol. When information cannot be gathered from one OP, successive OPs may be used. This is accomplished by squad-size reconnaissance patrols. The OPs must use available cover and concealment and have a good view of the objective.

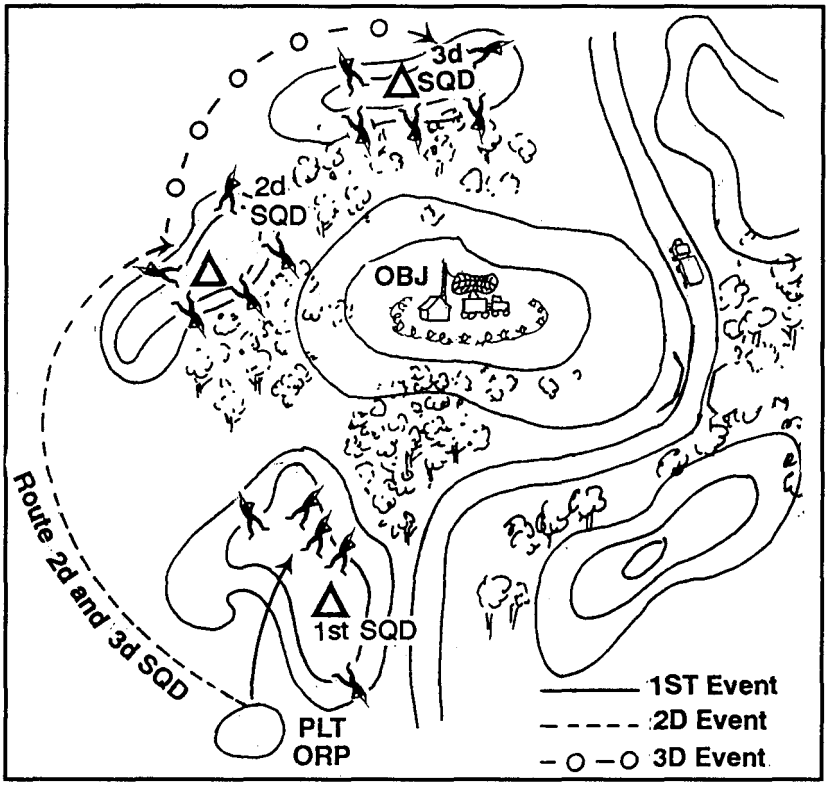


Figure 4-4. Area reconnaissance sketch long-range observation.

(2) Short-range observation or surveillance is the act of watching an objective from a place that is within the range of enemy local security measures and small-arms fire (Figure 4-5). When information needed by battalion cannot be obtained by observing from a distance, the patrol moves closer to the objective. This method can be executed by the platoon or by an individual squad. When executed by the platoon, the routes and area to be reconnoitered must be clearly defined.

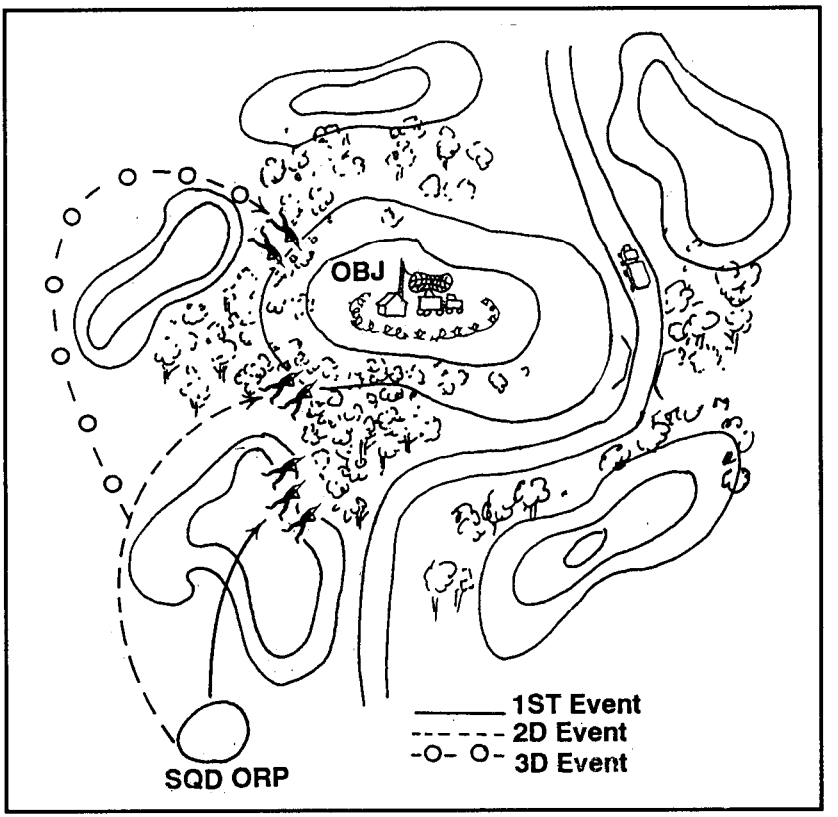


Figure 4-5. Area reconnaissance sketch close-range observation.

(a) Once the objective has been identified, the reconnaissance platoon leader looks for possible routes and locations from which he can observe the objective. Once these are identified, the platoon leader briefs the plan to the reconnaissance element. The size of the reconnaissance element should be limited—for a squad, two men conduct the reconnaissance while the others provide security. Once the security team is positioned, the

reconnaissance team begins movement to the objective. This movement is slow and deliberate. It may require the soldier to low-crawl a considerable distance, which takes time, energy, and patience. Individuals take only the equipment that is necessary. When moving, one soldier moves while the other observes. This method is used until the reconnaissance element reaches its final position.

(b) Once in position, the reconnaissance element observes and listens to acquire the needed information. No eating, no talking, and no unnecessary movement occurs at this time. Soldiers prone to coughing or sneezing should be in the security element. If the reconnaissance element cannot acquire the information needed from its initial position, it retraces the route and repeats the process. This method of reconnaissance is extremely risky. The reconnaissance element must remember that the closer it moves to an objective, the greater the risk of being detected. The reconnaissance element moves only as close to the objective as necessary.

(c) The actions of the security element are limited. The security element should be in a position to observe the objective and, if possible, the reconnaissance element. If unable to observe the reconnaissance element, it should at least be aware of the element's general location. If the reconnaissance element is compromised, the security element calls for fire and places direct fire on the objective. The execution of this method of reconnaissance is difficult; actions at the objective and contingency plans must be well rehearsed and thought-out.

d. **Withdrawal and Dissemination of Information.** Once reconnaissance is complete, the reconnaissance and security elements move back to the ORP or a rendezvous point. Security elements remain in position until the reconnaissance elements depart the objective area. Once all elements arrive in the ORP or rendezvous point, element leaders debrief the soldiers and move to the center of the perimeter to give the information to designated recorders. Recorders write down information and make/collect sketches of the objective. Element leaders disseminate the information obtained to the soldiers. This ensures that everyone has the information and, if necessary, can relay the information back to battalion. If the platoon leader wants to increase the security of the platoon, he can move the platoon to another location (normally one terrain feature away) or disseminate during movement.

4-5. ZONE RECONNAISSANCE

Zone reconnaissance focuses on obtaining detailed information concerning routes, obstacles (to include chemical or radiological contamination), terrain, and enemy forces within a zone defined by boundaries

(See Appendix B). A zone reconnaissance is assigned when the enemy situation is vague or when information concerning cross-country trafficability is desired. A reconnaissance platoon and other reconnaissance elements (infantry platoon/squad) acquire this information by reconnoitering within the zone, by maintaining surveillance over the zone, or by coordinating area reconnaissance of designated locations within a zone. The platoon leader organizes the reconnaissance platoon based on METT-T. This analysis determines whether the platoon uses single or multiple elements to conduct the reconnaissance. As in an area reconnaissance, the following techniques may be used as long as the fundamentals of reconnaissance are applied.

a. Single element reconnaissance is favored when—

(1) Specific information requirements can be gathered within the required time by a single reconnaissance element.

(2) Control of multiple elements in the objective area is difficult.

(3) Terrain is open and visibility is good.

(4) Enemy security measures, such as patrols, sensors, and radar, are active in the area.

b. Multiple element reconnaissance is favored when—

(1) The area to be reconnoitered is too large for a single element. In this case, the platoon leader uses multiple R&S squads to complete the reconnaissance on time.

(2) Several angles of observation are needed.

(3) Terrain is difficult and visibility is poor.

c. The methods used to move multiple reconnaissance elements through a zone are: fan, converging routes, and successive sectors. Effective command and control is important when conducting reconnaissance elements. It reduces the possibility of fratricide.

(1) ***Fan method.*** The platoon leader selects a series of ORPs throughout the zone. When the platoon arrives at the first ORP, it halts and establishes security. The platoon leader selects reconnaissance routes to and from the ORP. The routes form a fan-shaped pattern around the ORP (Figure 4-6, page 4-12). A technique for determining squad routes is to divide the route into four separate legs. The distance of each leg remains constant with respect to one another. Whatever the initial azimuth is, the leader adds or subtracts 90 degrees. For example, if the initial azimuth is 360 degrees, the corresponding azimuths are 90 degrees, 180 degrees, and 270 degrees. This ensures that a patrol leaves the ORP in one direction (360 degrees) and returns in another direction (270 degrees). Once the routes are selected and briefed to the squad leaders, the squads execute accordingly. The platoon leader may send all three

squads or he may send two and keep one squad as a reserve. The platoon leader or platoon sergeant can accompany one of the squads or remain at the ORP. The platoon leader also sends the squads out on adjacent routes. This prevents the patrol from making enemy contact in two directions. After the areas (fan) have been reconnoitered, the information is reported to battalion, the platoon moves to the next ORP, and the action is repeated.

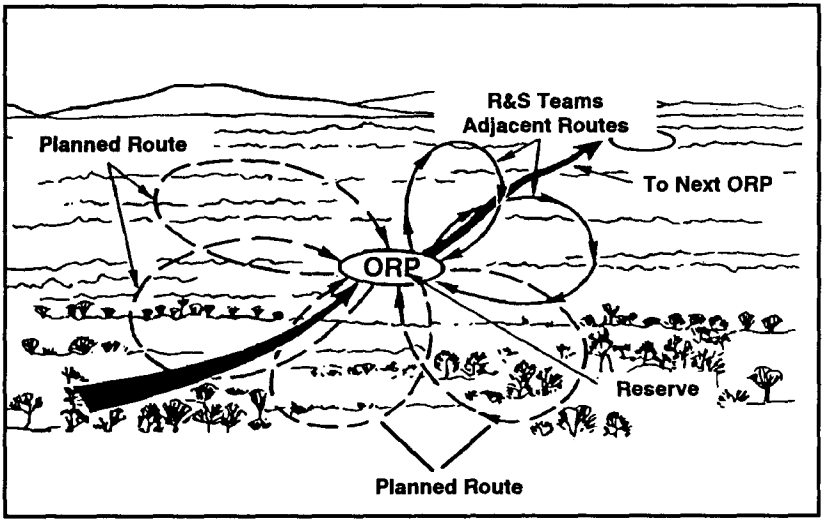


Figure 4-6. Fan method.

(2) ***Converging-routes method.*** The platoon leader selects an ORP, reconnaissance routes (through the zone), and a rendezvous point (Figure 4-7). (The rendezvous point is where the platoon links up after the reconnaissance.) Once the platoon arrives at the ORP, it halts and establishes security. The platoon leader confirms the platoon's location and selects a reconnaissance route for each squad, a rendezvous point, and a rendezvous time. A squad is sent out on each route. To enhance command and control, the platoon leader may move with the center squad. Squads reconnoiter their routes using the fan method. At a designated time, the entire platoon meets at the rendezvous point that is secured the same as the ORP. The rendezvous point should bean easily identified terrain feature. Once the rendezvous point is occupied, all information obtained is consolidated and disseminated. The platoon leader sends the information to higher headquarters and, based upon guidance from battalion, returns to friendly lines or continues the mission.

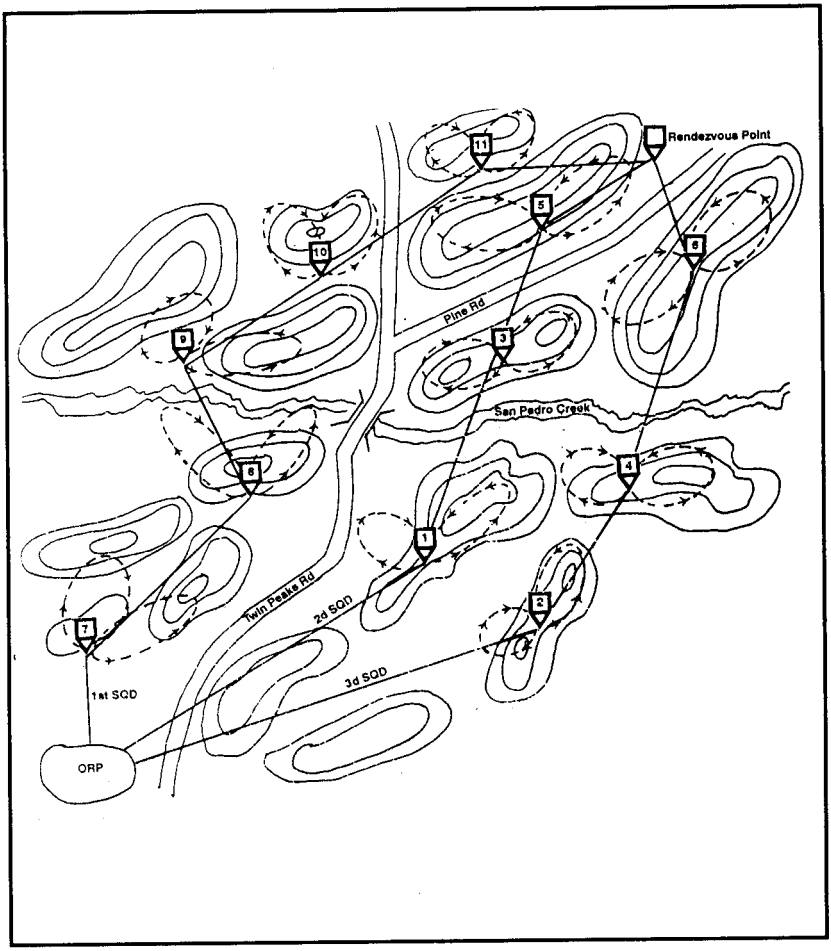


Figure 4-7. Converging-routes method.

(3) ***Successive-sectors method.*** The successive-sectors method (Figure 4-8, page 4-14) is a continuation of the converging-routes method. The platoon leader selects an ORP, a series of reconnaissance routes, and rendezvous points. The platoon's actions from each ORP to each rendezvous point are the same as in the converging-routes method. (Each rendezvous point becomes the ORP for the next phase.) When the platoon links up at a rendezvous point, the platoon leader again selects reconnaissance routes, a linkup time, and the next rendezvous point. This action continues until the entire zone is reconnoitered. Once the reconnaissance is completed, the reconnaissance platoon returns to friendly lines.

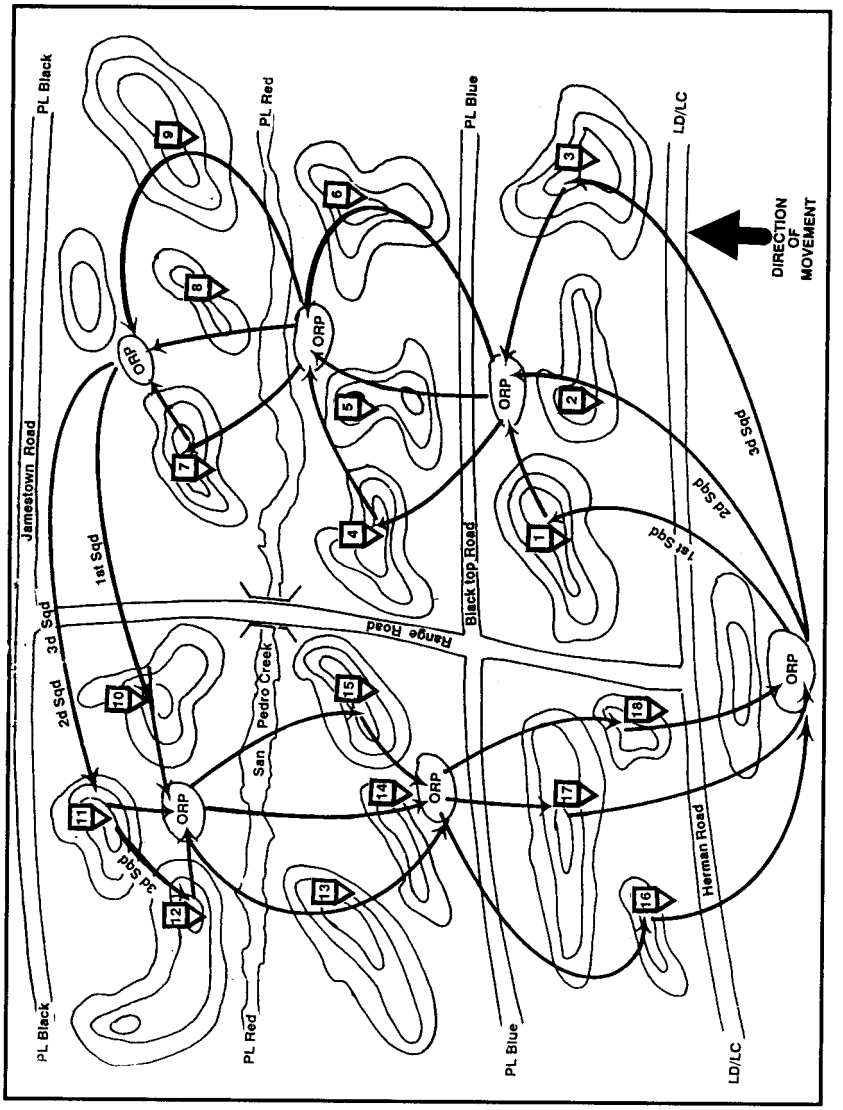


Figure 4-8. Successive-sectors method.

4-6. ROUTE RECONNAISSANCE

Route reconnaissance focuses on obtaining information on a specified route and all terrain from which the enemy could influence movement along that route. Route reconnaissance can be oriented on a road, a narrow axis (such as an infiltration lane), or a general direction of attack.

a. The battalion commander orders a route reconnaissance when he needs information on routes to his objective or to alternate or supplementary defense positions. Usually, an overlay is given to the platoon leader along with specific information requirements needed for that specific route. Possible information requirements are as follows:

(1) The available space in which a force can maneuver without being forced to bunch up due to obstacles (reported in meters). The size of trees and the density of forests are reported due to the effect on vehicle movement.

(2) The location and types of all obstacles and the location of any available bypass. Obstacles can consist of minefield, barriers, steep ravines, marshy areas, or NBC contamination.

(3) The enemy forces that can influence movement along the route.

(4) The observation and fields of fire along the route and adjacent terrain. This information will assist planners as a supplement to map information.

(5) The locations along the route that provide good cover and concealment.

(6) The trafficability for the type of forces using the route.

(7) The bridges by construction type, dimensions, and classification.

(8) The landing zones and pickup zones.

b. When conducting a route reconnaissance, the platoon leader organizes the platoon based on METT-T. Depending on the time available, he conducts a thorough map reconnaissance and plans a series of fans (Figure 4-9, page 4-16) along the route that provides detailed terrain information. Roads and trails intersecting or traversing the route must be reconnoitered to where they cross terrain. The enemy could influence friendly movement from adjacent terrain.

c. If the platoon must conduct a route reconnaissance as part of the higher unit's mission, then stealth and speed in conjunction with detailed intelligence reporting become key. The reconnaissance platoon must remain far enough ahead of the maneuver force to assist in early warning and to prevent the force from becoming surprised. In this case, the fan method may not be as effective as a modification of the converging-routes method.

d. If all or part of the proposed route is a road, the platoon considers the road a danger area. It moves parallel to the road using a covered and concealed route. When required, reconnaissance and security teams move close to the road to reconnoiter key areas.

e. Engineers can be used to support the platoon in collecting technical information. They assist the reconnaissance platoon by clearing obstacles

and classifying bridges. (For detailed information on classifying routes and bridges, refer to FM 5-34.)

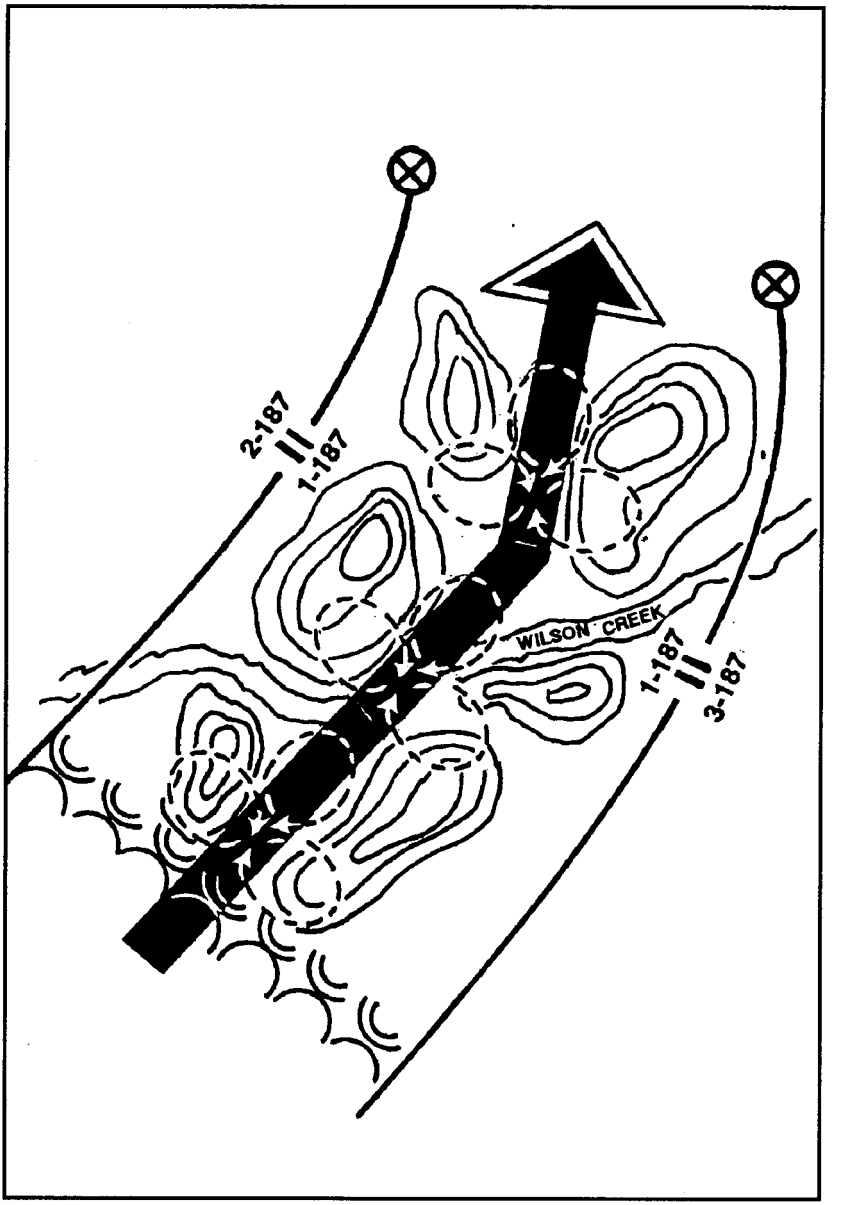


Figure 4-9. Route reconnaissance with fans.

f. The reconnaissance platoon reports conditions that are likely to affect the friendly movement IAW the SOP. An overlay of the route should be prepared. (Figure 4-10 is an example of a route reconnaissance overlay using standard symbols.) The following features may be included on the overlay (the first five are required):

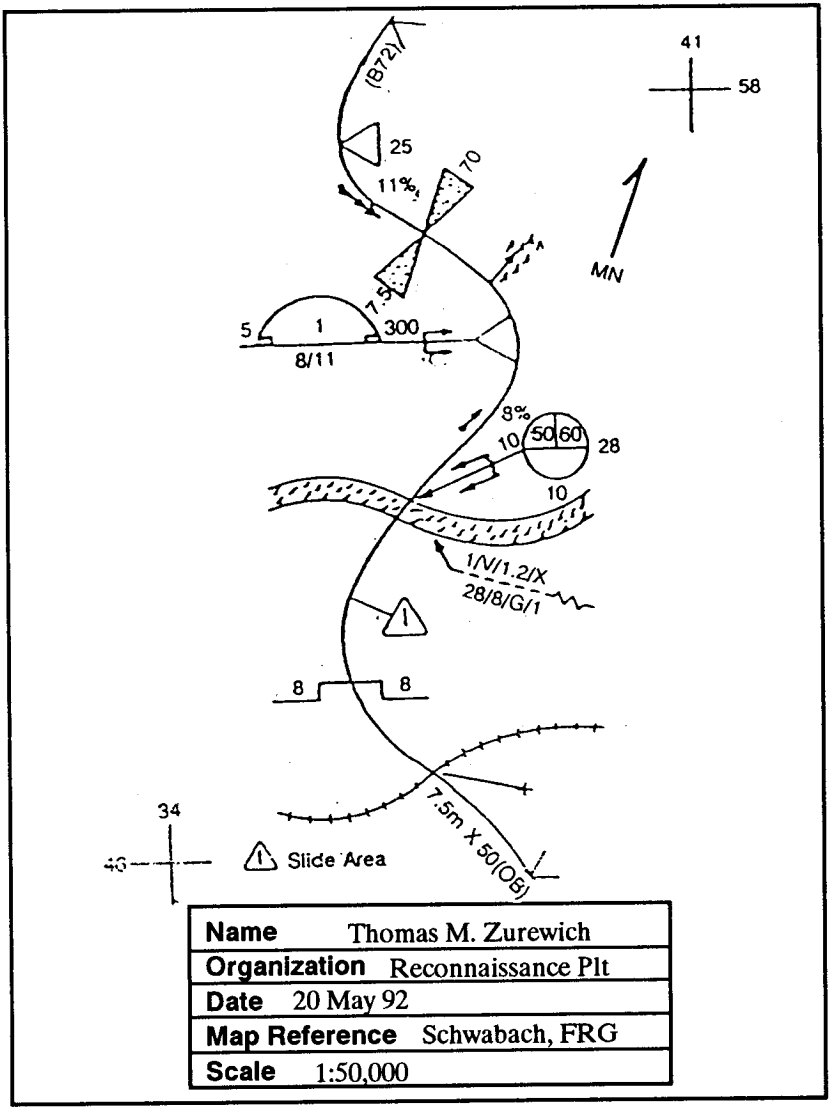


Figure 4-10. Route reconnaissance overlay.

- Two grid references.
- Magnetic north arrow.
- Route drawn to scale.
- Title block.
- Route classification formula.
- Road curves having a radius less than 45 meters.
- Steep grades with their maximum gradients.
- Road width of constrictions (bridges, tunnels, and so forth) with width/lengths of the traveled ways in meters.
- Underpass limitations with limiting heights and widths in meters.
- Bridge bypasses classified as easy, difficult, or impossible.
- Civil or military road numbers of other designations.
- Location of fords, ferries, and tunnels, including limiting information.

CHAPTER 5
SECURITY OPERATIONS

The reconnaissance platoon conducts security operations to protect the main body from enemy observation and surprise attack. These operations give the main body commander early warning and time to concentrate his combat power at the right time and place to defeat the enemy. The types of security missions used are: screen, guard, and cover. Although the reconnaissance platoon may conduct screening or reconnaissance missions to support a larger forces guard or cover mission, these missions are beyond the platoon's ability. The primary task ofa screen is to observe, identify, and report information. The reconnaissance platoon cannot effectively screen the battalion's flank, front, or rear by itself. Therefore, the battalion tasks additional forces to complement the reconnaissance platoon's screen. This chapter focuses on how the reconnaissance platoon conducts moving and stationary screens. It also discusses counter-reconnaissance, which is a subset of security that prevents hostile observations of a force, area, or place. The reconnaissance platoon screens and conducts surveillance as part of the battalion's overall countereconnaissance effort.

Section I. SECURITY FUNDAMENTALS

All military forces employ both active and passive security measures to protect themselves against acts designed to impair their combat effectiveness. Security operations are the combined effects of a forces security measures. Security is a principle of war. Commanders consider security when conducting any type of operation. Security operations are conducted forward, to the flanks, or to the rear of the battalion.

5-1. FUNDAMENTALS

Certain fundamentals are common to all security missions. Soldiers must observe these fundamentals when planning and executing their mission.

a. **Orienting on the Battalion.** If the battalion moves, the reconnaissance platoon must know of its movement and, if necessary, reposition itself. The reconnaissance platoon leader must know the battalion commander's scheme of maneuver and where he wants the screening force in relation to the battalion's movement. The screen must be positioned where it can provide the needed security.

b. **Performing Continuous Reconnaissance.** The reconnaissance platoon conducts continuous reconnaissance during security operations

to obtain as much information as possible about the area of operations and the enemy.

c. **Providing Early and Accurate Warnings.** Early and accurate warnings of enemy approach are vital to successful operations. The battalion commander needs this information to shift and concentrate his forces to meet and defeat the enemy. The reconnaissance platoon occupies OPs and patrols to provide long-range observation, to observe enemy movement, and to report the enemy's size, location, and activity to the battalion commander.

d. **Providing Reaction Time and Maneuver Space.** The reconnaissance platoon screens far enough from the battalion to identify enemy activity early. This allows the battalion commander time to react. If directed, the reconnaissance platoon uses indirect fire to slow the enemy's rate of advance and to provide more time for the battalion to maneuver to positions of advantage.

e. **Maintaining Enemy Contact.** Once the platoon identifies the enemy, it maintains visual contact to provide the commander with current information. If the platoon looses sight of the enemy, it attempts to regain contact and maintain it until ordered to do otherwise. The platoon must maintain visual contact without being sighted and engaged by the enemy.

5-2. SCREENING FORCE

A screening force maintains surveillance, provides early warning to the main body, impedes and harasses the enemy with artillery fires, and destroys enemy reconnaissance within its abilities. A screening force operates within the range of supporting artillery. The reconnaissance platoon leader should clarify those conditions when the platoon uses indirect fire to destroy enemy reconnaissance. The reconnaissance platoon fights only for self-protection.

5-3. GUARD FORCE

A guard force accomplishes the tasks of a screening force. It prevents enemy ground observation and direct tire against the main body. A guard force reconnoiters, attacks, defends, and delays, as needed, to accomplish its mission. It normally operates within the range of the main body's indirect-fire weapons. The reconnaissance platoon conducts a screen and or reconnaissance for the guard force.

5-4. COVERING FORCE

A covering force accomplishes all the tasks of screening and guard forces. It also operates apart from the main body to develop the situation early. It deceives, disorganizes, and destroys enemy forces. Unlike screening or guard forces, a covering force is a tactically self-contained force. It is

organized with enough CS and CSS forces to operate independently of the main body. The reconnaissance platoon conducts reconnaissance and screens in support of a covering force.

Section II. SCREENING MISSIONS

The infantry battalion uses a screening force in both the offense and defense. The exact size and composition of the screening force depends on the width of its sector in the defense or its zone of attack in the offense. The nature of the terrain and the specific tasks the screening force is expected to accomplish also affect the composition. Early warning is always a screening force task. Screening forces operate to the front, flanks, and rear of the battalion. The reconnaissance platoon and designated forces screen as part of the battalion's overall security plan.

5-5. SCREEN

During a screening mission, the following are accomplished:

- Provide early warning of enemy approach or location.
- Maintain continuous surveillance of assigned areas.
- Gain and maintain visual contact and report enemy activity.
- Identify enemy reconnaissance elements.
- Impede and harass the enemy by controlled use of indirect fires, when authorized.
- Guide reaction forces, if planned.
- Report information to the protected force.
- Destroy enemy reconnaissance forces, when authorized.

5-6. OBSERVATION POST

An OP is a position from which military observations (visual, audible, or other means) are made or from which fire is directed and adjusted and has the proper communications. OPs are used during screening and reconnaissance operations. The battalion commander designates an initial screen line. In coordination with the battalion S2, the platoon leader selects terrain along the screen line to site OPs (Figure 5-1, page 5-4). If these locations differ from what was previously coordinated, the platoon leader reports the new locations to the battalion staff. The platoon should plan to operate no more than three OPs with one squad for each OP. Once on the screen line, the platoon leader adjusts the location of the OPs as the terrain dictates. From the OP, the squad reports the enemy size, activity, location, and disposition to the commander, and, if directed, calls for indirect fires.

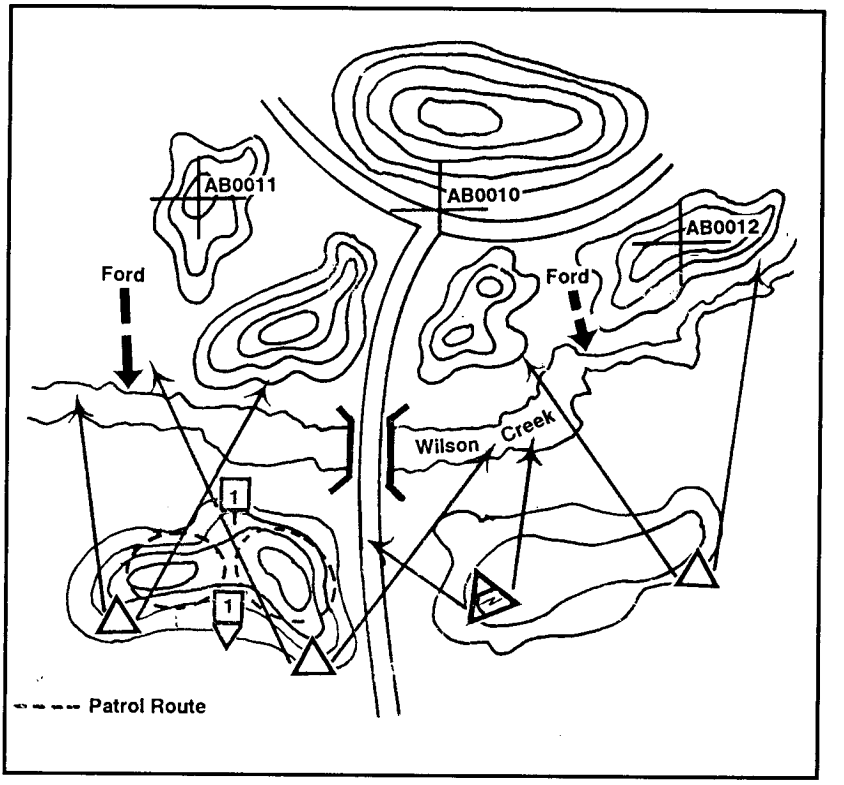


Figure 5-1. Observation post.

a. **Selection of the Observation Post.** The platoon leader selects the general location for the OP. The squad leader selects the exact position when he is on the ground. An OP should have the following characteristics:

(1) ***Good observation of the assigned area or sector.*** The field of observation of adjacent OPs should overlap to ensure full coverage of the sector. The OP should be able to observe TRPs and, if necessary, to adjust indirect fires. Areas that cannot be observed from an OP are patrolled at irregular intervals.

(2) ***Good cover and concealment.*** Select positions with cover and concealment to reduce vulnerability on the battlefield. OPs may not occupy the position with the best observation in order to obtain better concealment.

(3) ***Covered and or concealed routes to and from the observation post.*** Soldiers must be able to enter and leave the OP without being seen by

the enemy. Positions should not draw the enemy's attention. Positions such as a water tower, abandoned or destroyed equipment, or a lone building may be enemy artillery TRPs.

(4) ***Observers avoid skylining.*** OPs should avoid hilltops. The OPs are positioned farther down the slope of a hill or on the side, providing there are covered and concealed routes into the position. OPs can be located on the reverse slope. In this case, observers move forward so they can observe.

b. **Observation Post Positions.** If the best terrain for the OPs is beyond the initial screen line, the platoon leader displays initiative by placing the OPs in their positions (staying within the battalion's ***sector*** or zone) where squads can accomplish their mission. He then informs the battalion staff of the locations. The platoon leader also plans alternate and subsequent OPs throughout the sector. These OPs should have interlocking fields of observation.

c. **Manning of Observation Posts.** Each OP must be operated by a squad. This is required due to limited radio equipment, the need for local OP security, and the need for continuous observation. At least one soldier observes the assigned area while the other soldier secures the OP. The squad leader records observations and sends reports to the platoon leader. Soldiers should change jobs every half hour to avoid fatigue, which can decrease effectiveness. The squad leader establishes a rest and maintenance plan to ensure the squad can perform continuous operations. The squad operating the OP reconnoiters other OP sites and patrols dead space between OPs The squads are equipped to observe, to secure the area, to report information, and to call for indirect fire. The equipment used includes—

- A map or sketch of the area.
- A compass.
- Communications equipment (wire, radio).
- Observation devices (binoculars, NVDs).
- Report formats contained in the SOP.
- Individual weapons.
- Seasonal uniform and LBE.
- Sufficient food and water.

d. **Observation Post Security.** Soldiers on an OP employ active and passive measures to protect themselves from enemy detection and from enemy direct and indirect fires. The soldier's best defense is a covered and concealed position, which lessens the chance of being detected.

(1) At a minimum, construct a hasty position, add camouflage and overhead cover to the position as time allows. This increases survivability against enemy direct and indirect fires. The squad enforces strict noise and light discipline and reduces the amount of movement in and around the OP to essential movement only.

(2) Wire communications reduce the OP's electronic signature. Use a directional antenna that is masked from the enemy when possible. This reduces the possibility of enemy jamming and degrades the effectiveness of enemy direction-finding equipment. If available and time permits, emplace PEWS or GSRs in areas that cannot be observed or in dead spaces between OPs.

(3) Trip flares or AP mines provide early warning and protection from enemy personnel. Active patrolling around and between OPs also increases security. Patrols focus on areas that cannot be seen from the OPs.

e. **Actions at an Observation Post.** The platoon leader or squad leader briefs personnel on the following before sending them to the OP:

- When, where, and how to locate the OP.
- Where the OP will observe.
- When and how to report.
- Conditions for the withdrawal.
- Criteria for engaging target, "Indirect fire."
- Challenge and password.
- When they will be replaced.
- OP personnel briefback the leader.

f. **Visual Search Techniques.** Soldiers manning OPs must constantly search the assigned area or sector to identify signs of enemy forces. One soldier with binoculars, or another observation device, searches the entire area for obvious targets, unnatural colors, dust, shiny objects, outlines, or movement. The soldier raises his eyes from in front of the position to the greatest range of his sector of observation (Figure 5-2). If the sector is wide, he can divide it into subsectors. The soldier searches overlapping 50-meter-wide strips (Figure 5-3), alternating from left to right and right to left until the entire area is searched. Other soldiers on the OP scan the area, look for signs of movement, and direct the soldier with binoculars to search specific areas. When a suspicious area is seen, it is thoroughly searched. The map is oriented with the field of view to allow a quick and accurate report and to request indirect fire, if authorized.

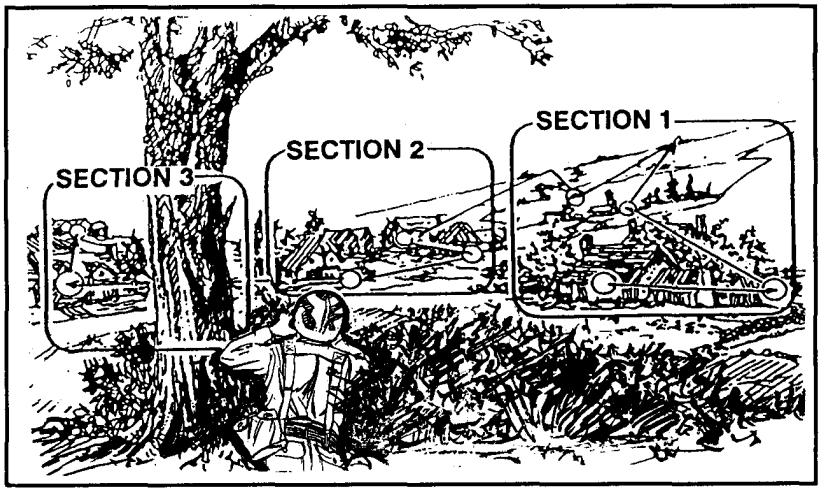


Figure 5-2. Overall search.

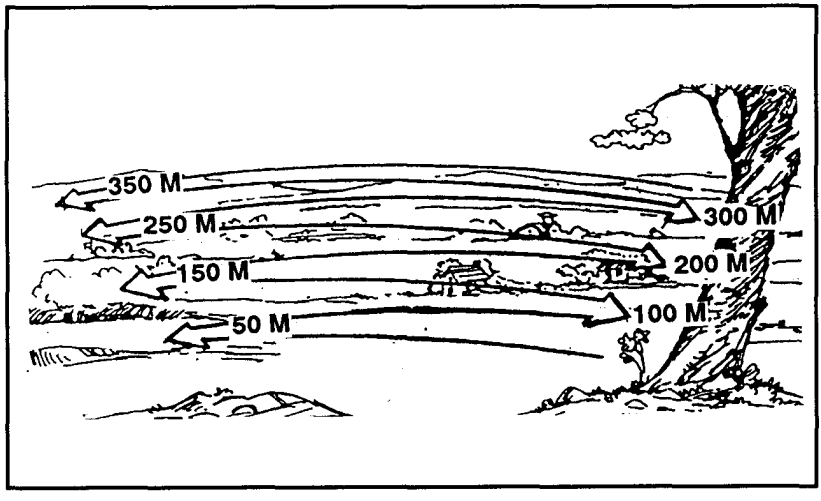


Figure 5-3. Overlapping 50-meter search.

5-7. MOVING AND STATIONARY SCREENS

A screen prevents the protected force from being surprised. The reconnaissance platoon accomplishes this by maintaining surveillance from a series of OPs along the screen line or in-depth. The reconnaissance platoon conducts active patrolling to extend its observation or to cover dead space and the area between OPs. It can screen both moving and stationary forces. The battalion provides the platoon with specific screening priorities and control measures in its OPORD.

a. **Planning.** Planning and techniques of conducting a screen are the same whether the screen is to the front, flank, or rear of the battalion. A reconnaissance platoon can maintain continuous surveillance on at least three avenues of approach for a limited time.

(1) The battalion commander directs the reconnaissance platoon to screen when and where he needs advance warning of enemy activities. The commander and S3 provide guidance that includes the screen line, or specific areas within the area of operations over which the platoon must maintain surveillance. The S3 also establishes control measures, such as contact points, phase lines, and boundaries, from which they can control the platoon.

(2) Normally, when the reconnaissance platoon receives a screen mission from battalion, its sector is delineated by lateral boundaries, by an initial screen line, and by a rear boundary or phase line. The platoon leader can assign other phase lines or control measures to control the platoon. If this is done, the platoon ensures that the battalion staff is aware of the changes. If this is not accomplished, the platoon uses the battalion's control measures to report information. The R&S plan directs and ranks in order of priority the platoon's efforts. The platoon leader may be required to employ collection assets (GSR, PEWS, and RSTA equipment) based on these priorities.

(3) The platoon leader analyzes the terrain in his area of operation. This analysis, together with guidance provided by the S2, determines the avenues of approach for which the platoon will be responsible. Next, the platoon leader determines where, either on or behind the initial screen line, the platoon must occupy to maintain continuous surveillance on avenues of approach.

(4) The platoon leader can divide the platoon's sector into squad sectors by placing boundaries on easily identifiable terrain between high-speed avenues of approach. The boundaries tell each squad the terrain for which they are responsible. The platoon leader does not place a boundary on a road, trail, or other avenue of approach since the squads may be confused as to who is responsible. The platoon leader assigns one avenue of approach to a single squad.

(5) The platoon leader can establish phase lines or checkpoints to help control movement but coordinates and reports these to the battalion. He places the phase lines on easily identifiable terrain. These phase lines may also serve as subsequent screen lines. The platoon leader places contact points at the intersection of phase lines and boundaries so that squads can make physical contact during the screen mission and gaps do not form between the squads. TRPs are planned throughout the sector and should be easily identified (day and night).

(6) Along with planning for subsequent screen lines, the platoon leader could be directed to leave soldiers in place during the enemy's advance. If required, soldiers hide in the OPs and continue reporting enemy movement. When authorized, stay-behind OPs adjust indirect fires on follow-on enemy formations. The platoon leader coordinates and establishes rally points and routes of withdrawal for each of the stay-behind OPs

b. **Moving Screen.** The battalion S3 provides the reconnaissance platoon leader with an overlay that identifies the screen line, boundaries, objectives, and key phase lines. The platoon can effectively screen one flank of a moving battalion, a limited part of the battalion's frontage if screening forward, or the battalion's rear. The platoon's size and communications equipment limit screening to only one area at a time. When screening forward, the platoon might require transportation support to remain ahead of the battalion. The screen orients on the protected force, key terrain, danger areas, and avenues of approach in the battalion's zone.

(1) The exact requirements for the reconnaissance platoon are stated in the battalion's OPORD and shown graphically on the battalion's overlay. (An example of a battalion's overlay is shown in Figure 5-4, page 5-10.) In this scenario, C Company is the main attack. C Company moves along Axis Charlie to its assault position. A Company follows C Company up to Checkpoint One, then moves along axis Alpha. A Company occupies positions that allow it to suppress enemy forces on Objective One. B Company moves along Axis Bravo and occupies its assault position. Once all the companies and separate platoons are in position, A Company begins suppressing Objective One. B Company begins its assault of Objective Two as soon as A Company initiates fires. C Company, the main attack, assaults Objective One on order of the battalion commander. In this case, the actions of A Company and B Company divert the enemy's attention allowing C Company to assault Objective One by surprise. In this scenario, the reconnaissance platoon is required to screen C Company's movement along Axis Charlie. Once C Company occupies its assault position, the reconnaissance platoon screens along Range Road to warn the battalion of the expected enemy counterattack.

(2) Based on the battalion's requirements and the commander's intent, the platoon leader develops the plan. In this scenario, the platoon's mission is: screen C Company's movement along Axis Charlie in order to prevent enemy forces from disrupting the main attack from the east. The battalion graphics also show a follow-on mission of screening along Range Road in order to provide early warning of the enemy counterattack. The platoon leader determines how the platoon can accomplish its mission by identifying areas along Axis Charlie that if occupied

by enemy forces could disrupt C Company's movement. These areas are reconnoitered by a squad. If these areas do not show signs of enemy, then the squad establishes an OP and maintains surveillance until ordered to move. In the scenario, the platoon leader identifies five areas. He determines that no enemy is in these locations by reconnoitering each location and leaving a two- or three-man element in each position. The platoon leader ensures this is accomplished before C Company's movement along Axis Charlie. C Company ensures the axis is secure by sending a squad(+) on the axis before its movement. This element also places reconnaissance elements on the objective. If this mission, along with the screening mission, was given to the reconnaissance platoon, the platoon would have been overtasked. The battalion commander's decision to use C Company's personnel to secure the axis and reconnoiter the objective is a technique.

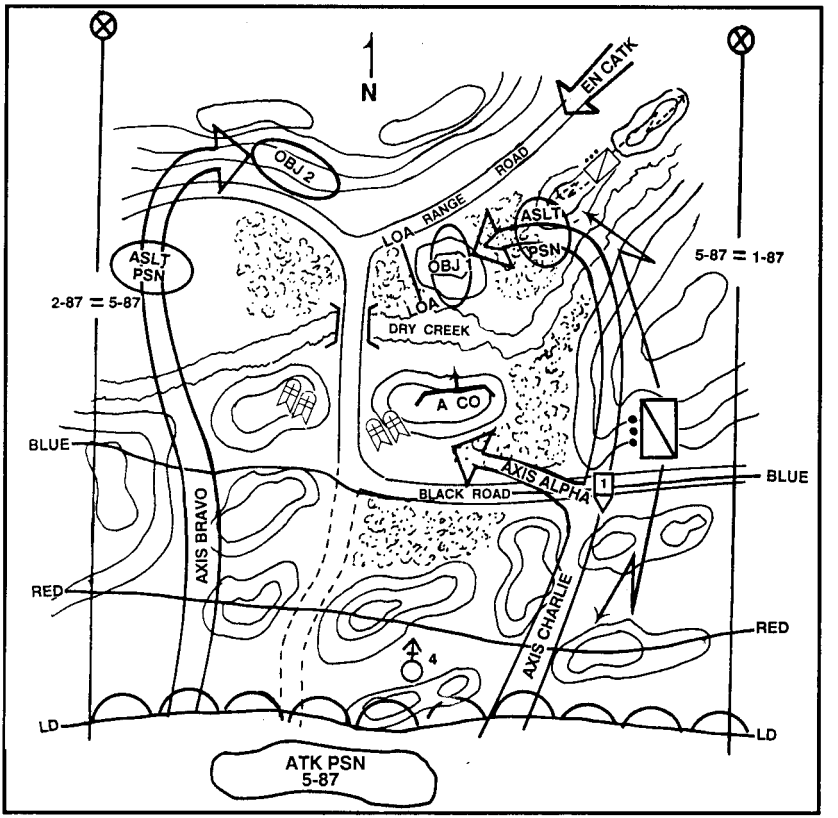


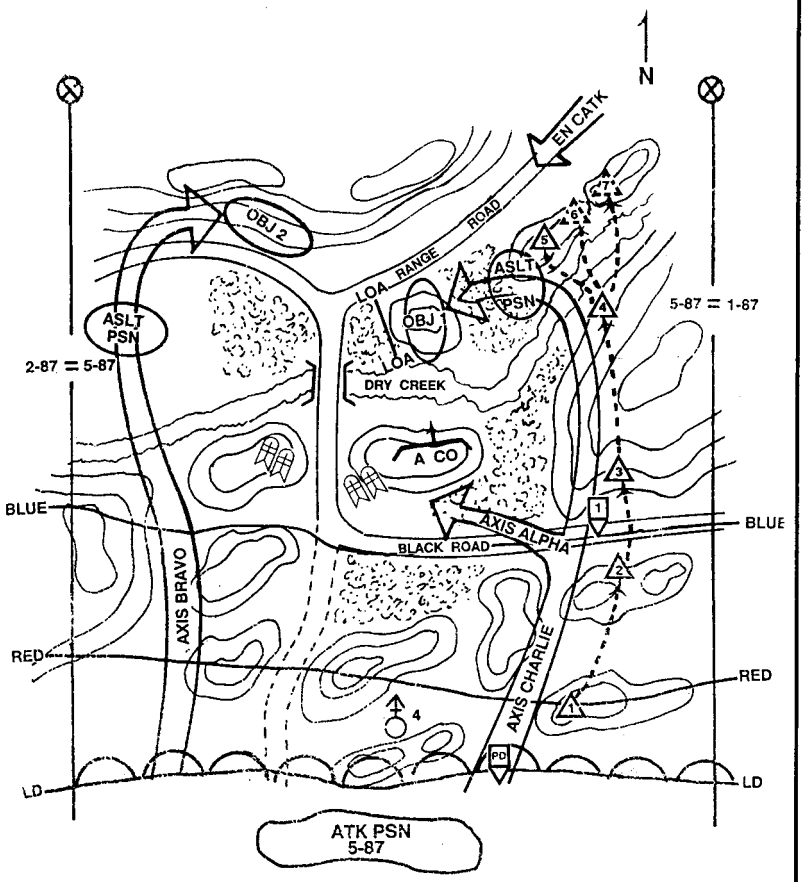
Figure 5-4. Example of a battalion overlay.

(3) Before C Company crosses the line of departure, the five OPs are in position. The platoon leader and a three-man element from 1st Squad stay parallel to C Company's movement along Axis Charlie. Once C Company crosses the LD, the remaining element from 1st Squad screens from OP 1 to OP 2. This element occupies OP 2 and awaits the arrival of the platoon leader and the rest of 1st Squad. When C Company crosses PL Red, the element initially occupying OP 2 (2d Squad (-)) screens from OP 2 to OP 3 and occupies OP 3. Once the platoon leader links up with elements from 1st Squad on OP 2, he notifies the element initially occupying OP 3 (2d Squad(-)) to screen from OP 3 to OP 4. The platoon leader and 1st Squad continue to move parallel to C Company. At OP 3, they link up with 2d squad(-) and move to OP 4. Once this linkup has occurred, 3d Squad (-) screens to OP 5. At OP 4, 1st Squad moves to OP 6 with the platoon leader, and 2d Squad moves to OP 7 with the PSG. This sequence of movements and screens is a technique that allows the reconnaissance platoon to screen C Company's movement along Axis Charlie and be in positions that allow the platoon to report the movement of enemy counterattack forces (Figure 5-5, page 5-12).

(4) The platoon leader coordinates with the S3 on the standard rate of march for the force conducting the operation. The platoon uses the rate of march to stay abreast or in front of the force being screened and to report other information. The platoon leader does not have time to adjust routes or to observe noncritical areas. If available, GSRs or sensors are used to observe avenues of approach or areas the platoon cannot cover due to time or manpower limitations. The platoon leader plans and coordinates indirect fires on choke points, likely avenues of approach, and key terrain that can aid in withdrawal or slow an enemy attack.

c. **Stationary Screen.** A platoon can effectively screen a flank, the front, or the rear of a stationary battalion. The platoon cannot screen both flanks effectively due to manpower limitations. The planning considerations and techniques of a stationary screen are the same as for a moving screen.

(1) The battalion commander and the S3 determine the area the reconnaissance platoon and other elements screen. The screen line generally traces where the screening elements establish observation posts. In addition to the screen line, the battalion establishes control measures such as contact or passage points. All personnel must know the location of screening elements. Forces that are unaware of the reconnaissance platoon's location can unknowingly engage withdrawing screening elements. (Typical graphics used during a stationary screen are shown in Figure 5-6 page 5-13.)



OP	OCCUPY	MOVE	FINAL OP POSITIONS
1	1ST SQD	C CO CROSS LD	OP 6 PL
2	2D SQD	C CO CROSS PL RED	
3	2D SQD	ON ORDER	OP 7/PSG
4	3D SQD	C CO CROSS PL BLUE	
5	3D SQD		OP 5/

Figure 5-5. Sketch of platoon's plan.

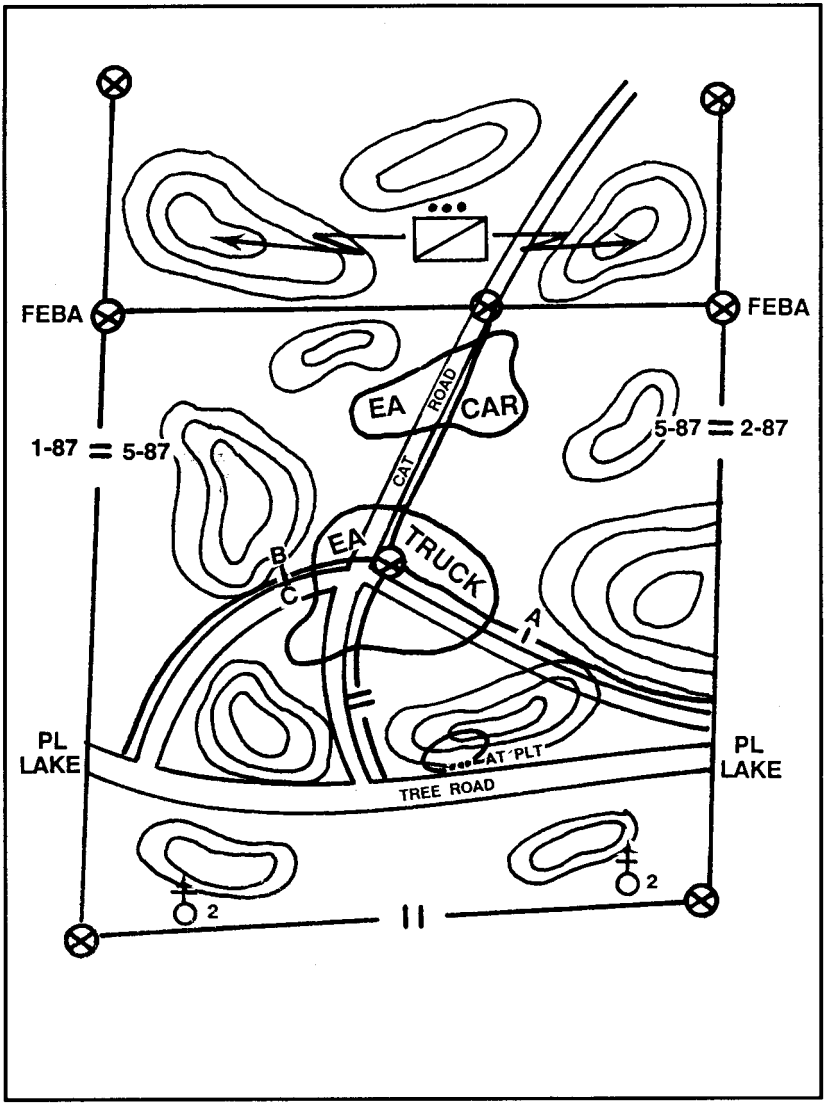


Figure 5-6. Battalion graphics for a stationary screen.

(2) As with the moving screen, the platoon establishes the stationary screen by setting up squad-sized OPs and, depending on METT-T, patrolling the dead space between the OPs (Figure 5-7 page 5-14). Unlike the moving screen, the OPs remain in one place. To enhance security, the OPs can occupy different positions based upon visibility.

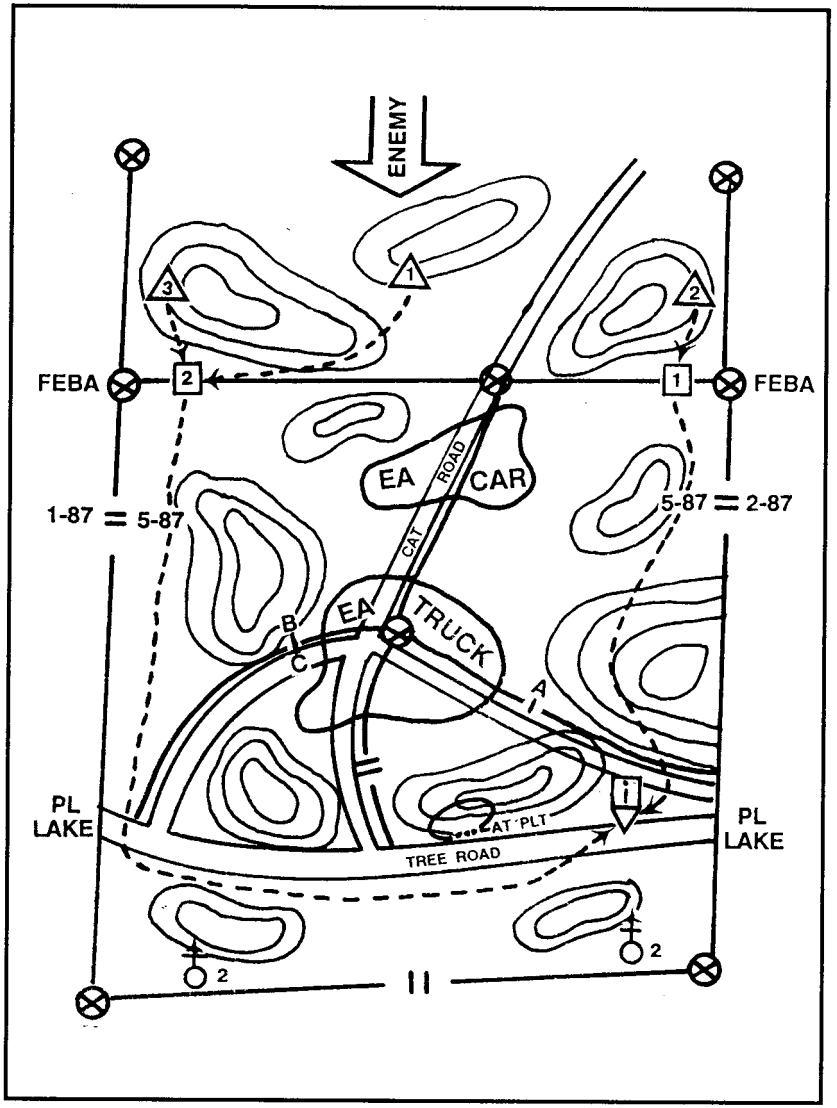


Figure 5-7. Platoon leader's plan for a stationary screen.

(3) The platoon leader employs the platoon with two or three squads abreast by establishing OPs. He ensures that squad leaders know the avenue of approach or area they must observe and how they cover dead space between OPs. When possible, the platoon leader employs a squad on each OP. The platoon can be required to maintain its screen line for

several days. To operate an OP with less than a squad does not allow for continuous operation of the OP. By occupying OPs with a squad, the squad can patrol dead space and the area between OPs conduct resupply operations, and rest or sustain its personnel.

(4) The platoon leader, platoon sergeant, and RATELOs normally occupy an OP with one of the squads. The platoon leader and platoon sergeant do not need to beat the same OP. The location of the platoon headquarters depends on the criticality of the area and the best position for command and control. Part of the control consideration is the ability of the platoon leader to communicate with the squads and battalion. For short times (12 hours or less), five OPs can be occupied. The platoon leader, platoon sergeant, and RATELOs augmented with one soldier from each squad, can be the fourth and fifth OPs.

(5) As soldiers observe the enemy forces approaching the screen line, they report the information to the platoon leader, who then reports to battalion. At times, contact is maintained with the enemy by moving to other positions or by passing the contact off to a subsequent OP. The platoon can also report on the activities of follow-on forces. If required to conduct a stay-behind mission, the platoon remains hidden and reports on follow-on forces. Squads eventually link up at a designated location and exfiltrate back to friendly lines.

Section III. COUNTERRECONNAISSANCE

Counterreconnaissance prevents enemy reconnaissance elements from observing the battalion and the area of operation. Enemy reconnaissance elements conduct mounted and dismounted patrols to locate positions, identify friendly forces, and detect friendly activities. Enemy patrols are normally small. They move with stealth and use concealment. These elements must be detected and denied information or destroyed before they can report their observations. The battalion's overall counterreconnaissance operations are integrated into the overall R&S plan. All forces and assets in the battalion join in this effort. The battalion counterreconnaissance plan addresses the use of available combat forces to locate and destroy enemy reconnaissance elements. The reconnaissance platoon conducts a screen mission to locate enemy forces while other combat forces destroy enemy reconnaissance forces.

5-8. PLANNING RESPONSIBILITIES

The key to the counterreconnaissance plan is how well the battalion coordinates the effort. The reconnaissance platoon is normally in position before the companies move into and occupy defensive positions. This ensures enemy elements are not operating within the battalion's area.

Based upon the terrain and enemy analysis, the S2 templates likely enemy reconnaissance objectives and routes. He recommends to the S3 and commander the general location and composition of forces needed to perform security. Consistent with the battalion commander's guidance, the S3 tasks subordinate forces to conduct counterreconnaissance.

5-9. SECURITY OPERATIONS TASKS

In counterreconnaissance operations, the reconnaissance platoon helps locate enemy reconnaissance for destruction by other elements or systems. The reconnaissance platoon participates in the overall counterreconnaissance effort. It maintains surveillance, provides early warning, and if directed, impedes and harasses enemy elements with supporting indirect fires. The commander must be specific when addressing the focus of the platoon's actions. If the platoon is conducting reconnaissance of something other than enemy reconnaissance elements, it is not directly part of the battalion counterreconnaissance force.

5-10. ASSETS

When the reconnaissance platoon detects the enemy's approach, a forward maneuver force is tasked with destroying enemy reconnaissance. The antitank platoon overmatches the most likely mounted avenues of approach and destroys detected enemy mounted reconnaissance elements. When available, ground surveillance radar helps identify enemy reconnaissance, especially during limited visibility.

CHAPTER 6
OTHER MISSIONS

In addition to conducting reconnaissance, surveillance, and establishing screens, the reconnaissance platoon may be required to assist the battalion in occupying assembly areas, and in conducting passage of lines, linkups, and relief in place missions. This chapter discusses the role of the reconnaissance platoon in those missions and how they track enemy forces.

6-1. ASSEMBLY AREAS

A battalion occupies an assembly area (AA) for security while preparing for future operations. Occupation of an AA is normally SOP. The requirements of the reconnaissance platoon vary according to the SOP. The platoon is normally tasked to locate, clear, and assist in the orderly occupation of an AA. The platoon precedes the battalion's quartering party. It conducts an area/zone reconnaissance to locate the AA to determine if it is suitable for occupation, and most important, to determine if the enemy is in the area. (Appendix D discusses the actions of the platoon while in the AA. For more information, see FM 7-20.)

6-2. PASSAGE OF LINES

A passage of lines is an operation in which one element passes through the positions of another. For example, elements of a covering force withdraw through the forward edge of the MBA, or an exploiting force moves through the elements of a force that initially conducted an attack. A passage of lines is either forward or rearward, depending on the direction of travel.

a. The actions of the reconnaissance platoon vary according to whether the passage is forward or reward, and whether the battalion is the stationary or passing element. The battalion SOP addresses the "standardized actions of elements assisting in the passing or passage of lines. (For more information, see FM 7-20.)

b. The reconnaissance platoon can be expected to conduct liaison, provide guides, reconnoiter routes, and establish screens. The battalion commander or S3 determines the exact requirement. Once the platoon leader knows the requirement, he assigns specific missions to the squads. The platoon leader should locate in a position where he can monitor and control the actions of the platoon. Each squad must know the sequence of events, the times they will occur, and the exact location of the passage. The platoon leader ensures the squads know what they are required to do

following the passage. The squad can either link up with the platoon leader or execute the follow-on mission.

6-3. LINKUP

Linkups are part of most light infantry operations and normally occur in enemy-controlled areas. Linkups are conducted to consolidate forces or to make coordination. Higher headquarters tasks the reconnaissance platoon to conduct linkup with friendly forces. Also, the platoon leader may require the squads to link up in order to consolidate the platoon. Successful linkups depend upon detailed planning and coordination.

a. **Site Selection.** When battalion directs two units to linkup, it designates a primary and an alternate linkup point. The platoon leader designates primary and alternate linkup points when conducting internal linkup. The site should be easy to find at night, must have cover and concealment, be off natural lines of drift, and must offer access and escape routes.

b. **Recognition Signals.** Far and near signals are required to keep friendly forces from firing on each other. The radio can be used as a far recognition signal, and code word(s) should be used to keep transmissions short. Code words may be developed for indicating the position of the force from the site, occupation of the site, or security of the site. Visual and oral recognition signals are planned and coordinated before departing friendly lines. The types of signals used are sign, countersign, and linkup site.

(1) ***Signs, couutersigns.*** These can be a challenge and password or a number combination. An even number should not be used for a near signal. A sign or countersign could also bean exchange of signals using filtered flashlights, chemical lights, infrared lights, or VS-17 panels for far recognition signals.

(2) ***Linkup sites.*** These signals are placed at the exact location of the linkup point. Examples are stones placed in a prearranged pattern, markings on trees, and arrangement of wood and tree limbs. The first force arriving at the linkup site places the sign and then assumes a covered and concealed position to observe it. The next force to arrive at the site identifies the signal and initiates the far recognition signal.

c. **Execution.** Linkups may occur between two forces traveling on different routes, or when one force already forward has established a linkup site and awaits the arrival of another force. Linkups are normally executed by squads or teams from a larger force. The following discussion portrays a squad executing the linkup of two platoons.

(1) ***Actions at the linkup site with both platoons moving*** (Figure 6-1). In a linkup, the execution begins once the platoons move toward, the linkup site. If necessary, the platoons can use codewords to report their location.

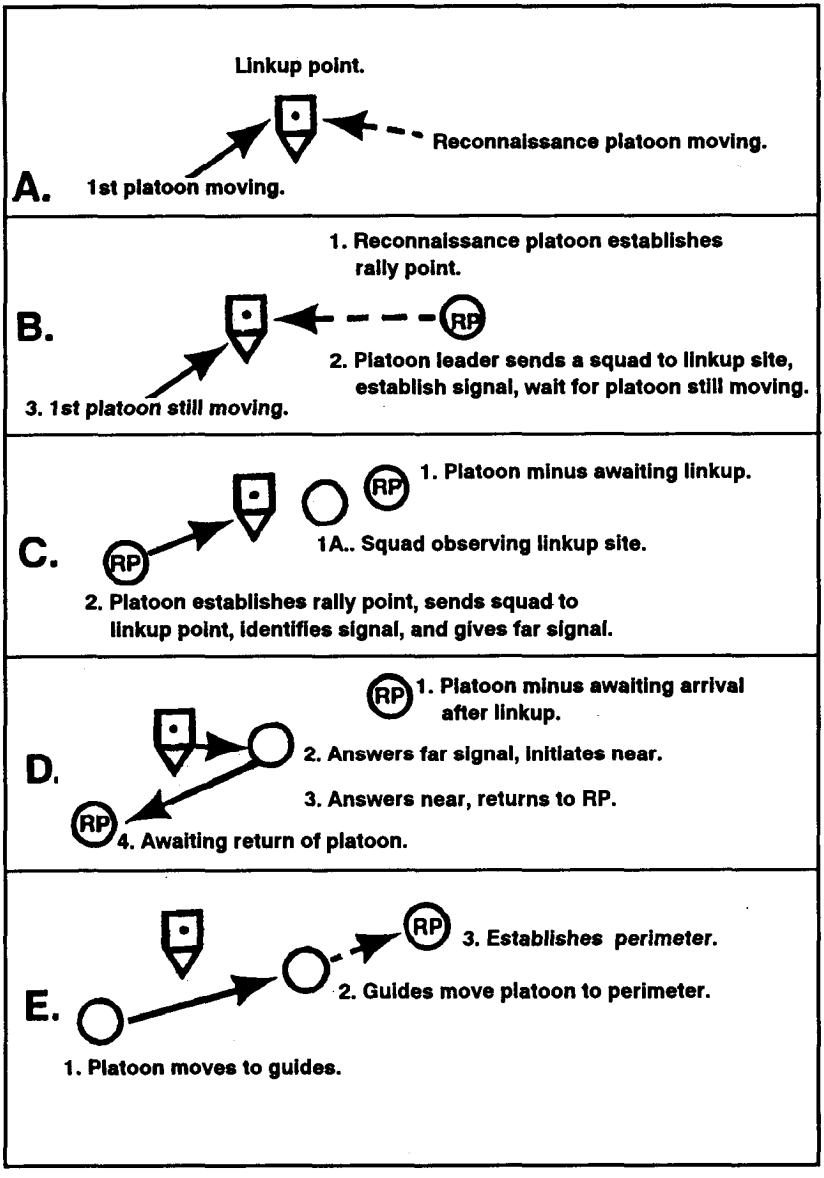


Figure 6-1. Linkup sequence of events.

Phase lines and checkpoints are used to control movement. The platoon that establishes the linkup site occupies a rally point close to the linkup site. A squad moves to pinpoint the linkup site and secures it. This squad marks the linkup site using the previously coordinated recognition signal and positions itself to observe the site. The moving platoon also establishes a rally point close to the linkup site and then sends a squad forward to pinpoint the linkup site. The squad should spot the recognition signal and then initiate the far recognition signal, which is answered by the squad observing the linkup site. The squad at the linkup site then moves toward the squad answering the signal and exchanges near recognition signals. The stationary squad initiates the signal. Once these squads coordinate, the squad arriving at the linkup site returns to the rally point and guides the platoon back to the linkup site. The squad establishing the linkup then guides the platoon to the rally point. The platoon leader then integrates the platoon into the perimeter.

(2) ***Actions at the linkup with one platoon moving.*** The leaders of both platoons coordinate with their respective higher headquarters for location of linkup, call signs, frequencies, codes words, far and near signals, and control measures. The stationary platoon establishes a rally point and sends a squad to secure and mark the linkup point. The moving platoon moves toward the linkup point and establishes a rally point when close enough to do so. (The actions of the stationary and moving platoon hereafter remain the same as shown in Figure 6-1.)

6-4. RELIEF IN PLACE

A relief in place is an operation in which one force replaces another. A relief-in-place operation is planned, coordinated, and controlled at battalion. The battalion commander or S3 determines the role of the reconnaissance platoon during a relief. The platoon normally provides guides, conducts initial coordination, and relieves the outgoing force's reconnaissance platoon. The platoon assists with the relief of other elements before they relieve the outgoing force's reconnaissance platoon. This is done for security reasons. A battalion conducting a relief is always vulnerable to an enemy attack. The reconnaissance platoon is normally closest to the enemy. If the enemy is in a position to observe the outgoing force's reconnaissance platoon being relieved, the enemy may seize the opportunity and attack. (For more information, see FM 7-20.)

6-5. GUIDES

A reconnaissance platoon often provides guides as part of a reconnaissance, passage of lines, and relief in place, or during conduct of a linkup. Guides aid in the positioning of forces for follow-on missions. At a minimum, a guide element should be composed of two soldiers. The remaining soldiers estab-

lish a rally point or, if performing reconnaissance of an objective, maintain observation. A guide element must know the route from the linkup point to its designated area, especially during limited visibility. The route should be marked with any available material. Once linkup has occurred, guides lead the element into position and continue to perform the mission as stated in the OPORD (see paragraph 6-3).

6-6. TRACKING

The reconnaissance platoon can be given the mission to follow the trail of a specific enemy force. When operating in a low-intensity conflict environment, the reconnaissance platoon has a greater likelihood of receiving a tracking mission. A tracker must have patience and move slowly, quietly, and steadily while observing and interpreting available indicators. He must avoid using reckless speed that may cause him to overlook important signs, lose the trail completely, or blunder into an enemy force. Attention to detail, common sense, logic, and knowledge of the environment and enemy habits allow soldiers to obtain valuable information from signs in the area of operation.

a. **Organization.** When the reconnaissance platoon receives the mission to conduct a tracking patrol, it assigns the task of tracking to only one squad. The remaining squads provide security or act as a reserve if contact is made. (Figure 6-2 shows the typical organization of a tracking squad.)

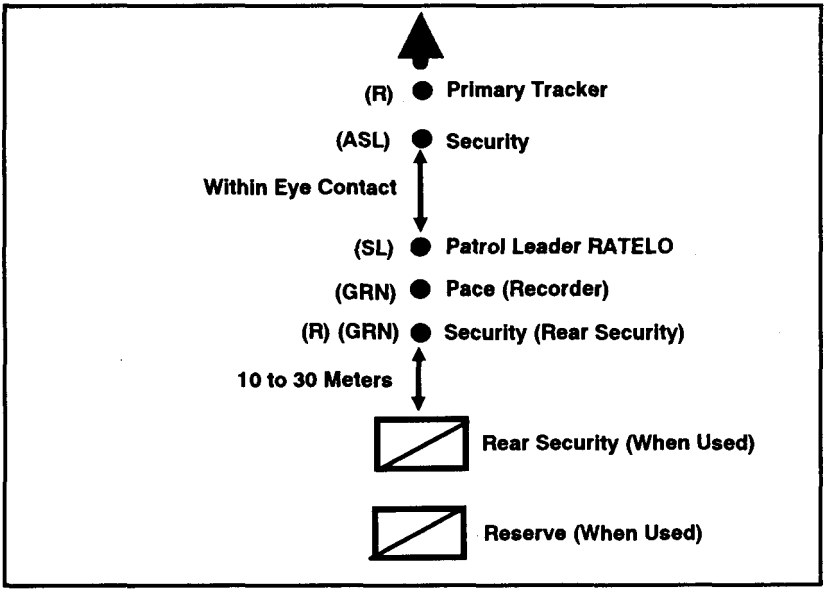


Figure 6-2. Tracking organization and formation.

(1) ***Squad leader.*** The squad leader carries the radio and is the primary navigator. He has overall responsibility for accomplishing the mission, organizing the force, and setting each soldier's load.

(2) ***Primary tracker.*** The primary tracker's job is to follow the main trail left by the tracked group; he has no other duties. The primary tracker focuses on following the main trail.

(3) ***Security.*** The security man observes to the front and flanks of the trail and provides security for the primary tracker who concentrates on the trail. Normally, this is the assistant squad leader.

(4) ***Rear security.*** **The** rear security man provides security for the rear. He looks back along the trail at irregular intervals to keep from being ambushed from behind. If the squad makes enemy contact to the front or flank, the rear security man is in the best position to support the men in contact. The rear security man also records the traveled azimuths to assist in navigation.

b. **Concepts.** Any indicator that the tracker discovers can be defined by one or more of the following concepts:

- Displacement.
- Stains.
- Weather.
- Litter.
- Camouflage.
- Immediate-use intelligence.

(1) ***Displacement.*** Displacement (Figure 6-3) takes place when anything is moved from its original position. A well-defined footprint in soft, moist ground is a good example of displacement. The shoe or foot of the individual who left the print displaced the soil by compression, thus leaving an indent in the ground. By studying this indicator, the tracker can determine several important facts. The print left by worn footwear or by a barefooted person may indicate lack of proper equipment.

(2) ***Stains.*** A stain occurs when any substance from one organism or article is smeared or deposited on something else. The best example of staining is blood from a profusely bleeding wound. Bloodstains are often in the form of spatters or drops. Blood indicators are not always on the ground but may also besmeared on the leaves or twigs of trees and bushes.

(a) Staining can also occur when muddy footgear is dragged over grass, stones, and shrubs. Thus, staining and displacement combine to indicate movement and direction. Crushed leaves may stain rocky ground that is too hard to leave footprints. Roots, stones, and vines may be stained where leaves or berries are crushed by moving feet.

(b) In some instances, it may be hard to determine the difference between staining and displacement since both terms can be applied to some indicators. For example, water that has been muddied may indicate recent movement mud that has been displaced also stains the water; stones in streams may be stained by mud from footwear; algae can be displaced from stones in streams and can stain other stones or the bank.

(c) Water that collects in footprints in swampy ground is muddy if the tracks are recent. With time, however, the mud settles and the water clears. The tracker can use this information to indicate time. Normally, the mud clears in about one hour. Clearing time, of course, varies with the terrain.

(3) ***Weather.*** Weather can either aid or hinder the tracker. Wind, snow, rain, or sunlight may completely erase indicators, thus hindering the tracker.

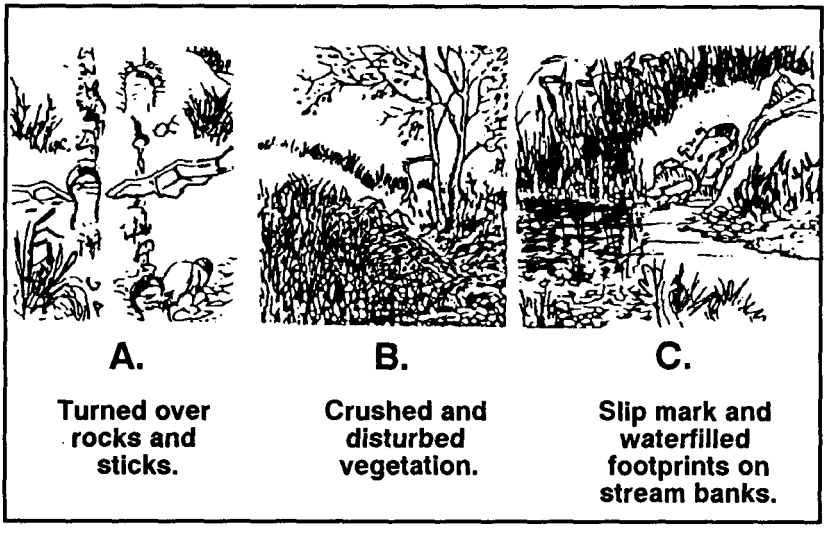
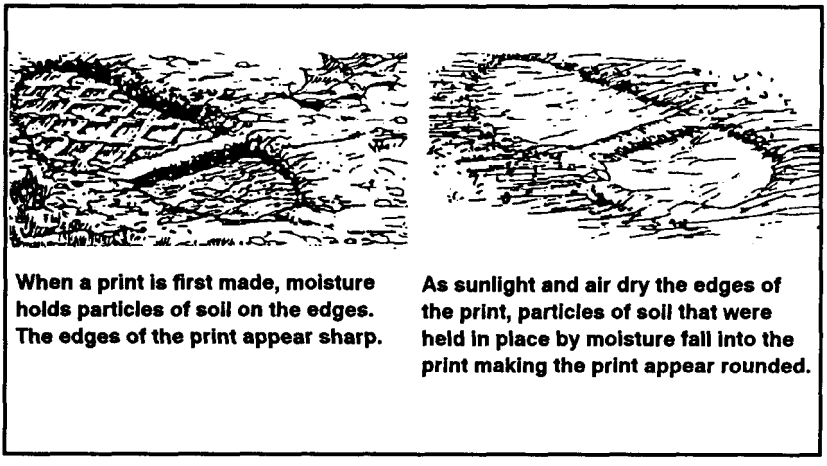


Figure 6-3. Displacements.

(a) By studying the effects of weather on indicators, the tracker can determine the age of the indicator. For example, when bloodstains are fresh, they are bright red. Air and sunlight change the color of blood first to a deep ruby red then to a dark brown crust when the moisture evaporates. Scuff marks on trees or bushes darken with time; sap oozes and then hardens when it makes contact with the air.

(b) Footprints are greatly affected by weather (Figure 6-4, page 6-8). By carefully studying this weather process, the tracker can determine the approximate age of the footprint. If particles are just beginning to fall

into the print, the tracker should become a stalker. If the edges of the print are dried and crusty, the prints are probably at least an hour old. This varies with the terrain and should be considered as a guide only.



When a print is first made, moisture holds particles of soil on the edges. The edges of the print appear sharp.

As sunlight and air dry the edges of the print, particles of soil that were held in place by moisture fall into the print making the print appear rounded.

Figure 6-4. Weather effects on footprints.

(4) ***Litter.*** A poorly trained or poorly disciplined force moving over a piece of terrain is likely to leave a clear trail of litter. Gum or candy wrappers, ration cans, cigarette butts, remains of fires, or even piles of human feces are signs of recent movement. However, the tracker must consider weather when estimating the age of such litter. Rain flattens or washes litter away and turns paper into pulp. Ration cans exposed to weather rust first at the exposed edge where it is opened and then moves toward the center. Again, the tracker must use his experience to properly determine the age of litter. The last rain or strong wind can be the basis for a time frame.

(5) ***Camouflage.*** Camouflage applies to tracking when the party being followed employs techniques to confuse the tracker or slow him down. Walking backward to leave confusing prints, brushing out trails, and moving over rocky ground or through streams are examples of techniques that may be employed to confuse the tracker. By studying signs, a careful, observant tracker can determine if an attempt is being made to confuse him. If the party attempts to throw off the tracker by walking backward, the footprints are deepened at the toe and soil is scuffed or dragged in the direction of movement. By following carefully, the tracker normally finds a turnaround point.

(6) ***Immediate-use intelligence.*** As the tracker moves, he constantly asks himself questions. As he finds indicators that answer those questions, he begins to forma picture of the enemy in his mind.

(a) *Interpreting.* The tracker must avoid reporting his interpretations as facts. He should report that he has seen indications of certain things instead of stating to the commander that these things actually exist. The commander may have more information to help him estimate the enemy he is facing.

(b) *Reporting.* Immediate-use intelligence is information concerning the enemy that can be put to use immediately to gain surprise, to keep the enemy off balance, or to keep him from escaping the area entirely. A tracker can obtain information that, when combined with information from other sources, indicates enemy plans. Tracking is one of the best sources of immediate-use intelligence. Indicators may be so fresh that the tracker becomes a stalker, or they can provide information that helps the commander plan a successful operation.

c. **Footprints.** Footprints may indicate direction and rate of movement, number of persons in the moving party, whether heavy loads are being carried, and whether the enemy realizes that they are being followed (Figure 6-5).

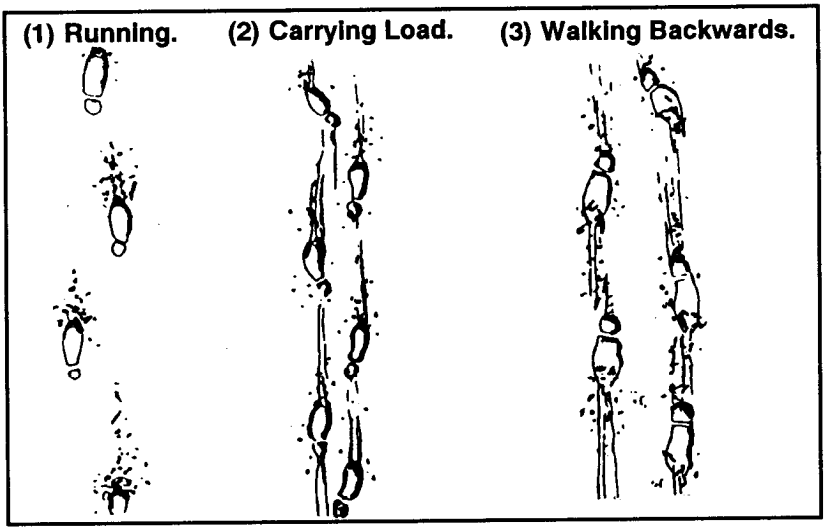


Figure 6-5. Different types of footprints.

(1) ***Running.*** If footprints are deep and the pace is long, rapid movement is apparent. Extremely long strides and deep prints with toe prints deeper than heel prints indicate running.

(2) ***Carrying load.*** Prints that are deep, short, and widely spaced with signs of scuffing or shuffling indicate that the person who left the print is carrying a heavy load.

(3) ***Walking backwards.*** If the party members realize they are being followed, they may try to hide their tracks. Persons walking backward have a short, irregular stride. The prints have an unnaturally deep toe. Soil is displaced in the direction of movement.

d. **Key Prints.** Since the last man in a file normally leaves the clearest footprints, his should be the key set of prints. The tracker should cut a stick to match the length of the key prints and notch it to indicate the width at the widest part of the sole. He should study the angle of the key prints to the direction of march. The tracker should also look for an identifying mark or feature on the prints, such as a worn or frayed part of footwear, to help him identify the key prints. If the trail becomes vague or erased, or merges with another, the tracker can use his stick-measuring devices and, with close study, can identify the key prints. This helps the tracker to stay on the trail. A technique used to count the total number of individuals being tracked is the box method. There are two methods the tracker can use to employ the box method:

(1) The first and most accurate method is to use the stride as a unit of measure when key prints can be determined. The tracker uses the set of key prints and the edges of the road or trail to box in an area to analyze (A, Figure 6-6). This method is accurate under the right conditions for counting up to 18 persons.

(a) Determine the key print. In this case, the key print is the print left by the lug sole boot. This boot made the last print on the trail, and it is the easiest print to recognize.

(b) Draw a line across the heel of one of the key prints.

(c) Move forward to the opposite key print and draw a line across the instep. Add the extra one-half print to determine if a person is making an abnormally long stride.

(d) Use the edges of the road or trail as the sides of the box, and the drawn lines as the front and back. Any person walking normally would have stepped in the box at least onetime. Count each print or partial print in the box.

(e) Remember to count the key print only once.

(2) The second method a tracker can use to employ the box method is the **36-inch box.** It is used where there are no key prints distinguishable. However, this system is not as accurate as the stride measurement (B, Figure 6-6).

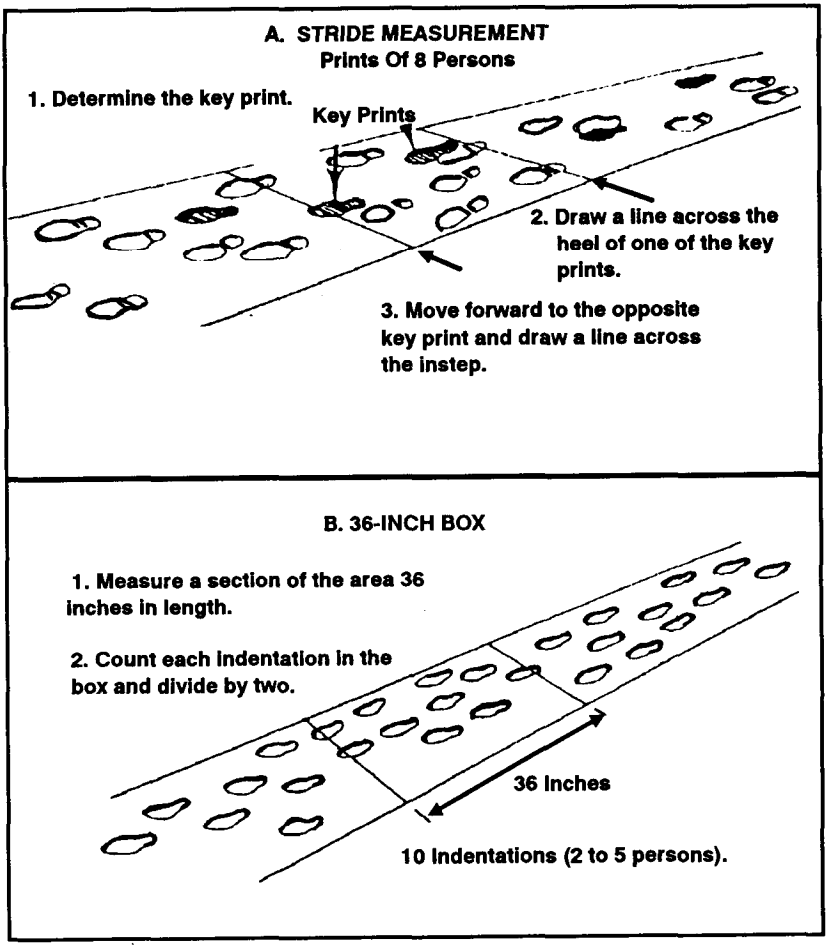


Figure 6-6. Stride and 36-inch box method.

(a) Use the 36-inch box method when no key print is available. Use the edges of the road or trail as the sides of the box.

(b) Measure across a section of the area 36 inches in length. The M16 rifle is 39 inches long and may be used as a measuring device.

(c) Count each indentation in the box and divide by two. This gives a close estimate of the number of persons who made the prints.

e. **Other Signs of Displacement.** Footprints are only one example of displacement. Anything that has been moved from its original position by a moving person is an example of displacement.

(1) Foliage, moss, vines, sticks, or rocks that are scuffed or snagged from their original place form good indicators. Vines may be dragged,

dew droplets may be displaced from leaves or stones, and sticks may be turned over to indicate a different color underneath. Grass or other vegetation may be bent or broken in the direction of movement.

(2) Bits of clothing, threads, or dirt from boots can be displaced from a person's uniform and left on thorns, on snags, or on the ground. The tracker should inspect all areas for bits of clothing or other matter ripped from the uniform of the person being tracked.

(3) An enemy entering or exiting a stream creates slide marks, footprints, or scuff bark off roots or sticks. There are many examples and signs of displacement; the tracker needs to carefully analyze those signs that indicate movement.

CHAPTER 7
COMBAT SUPPORT

Effective combat support is the responsibility of the battalion commander. Mortars, artillery, air defense artillery, combat engineers, intelligence assets, and aviation assets provide combat support. The battalion commander decides how to employ his assets based upon his estimate of the situation. These elements may be attached, OPCON, DS, or GS to the reconnaissance platoon. The reconnaissance platoon must know the employment considerations and the abilities of all combat support assets.

Section I. INDIRECT FIRE SUPPORT

Mortars and field artillery are the main indirect fire support available to the reconnaissance platoon (Table 7-1, page 7-2). This section discusses the responsibilities, the considerations, and the procedures for employment of all indirect fire assets supporting the reconnaissance platoon.

7-1. FIRE PLANNING

The reconnaissance platoon must understand how the battalion plans for and executes indirect fires in support of the commander's scheme of maneuver. A reconnaissance platoon does not have assigned FOs to assist in the planning and execution of indirect fires. The battalion commander attaches or places under OPCON a FIST to assist the platoon in calling for fires. He uses the battalion FSO to advise and integrate indirect fire support into the battalion's scheme of maneuver.

a. The fire-planning process begins at higher echelons and progresses downward to company FSOs and other key personnel to include the reconnaissance platoon leader. Its effectiveness requires continuous coordination and feedback from the lower echelons upward. Limited input regarding actual targets is not normally available to the platoon. Instead, the key functions are refinement and confirmation of target locations and execution of events. Specific responsibilities are listed on the fire support execution matrix, which the battalion FSO prepares in support of the current operation. The matrix tells the leaders who is responsible for each target, when the target should be executed, and by what means (artillery, mortars, CAS). (An example of a fire support matrix developed by a battalion FSO is shown in Figure 7-1, page 7-3.) The matrix is set up with the maneuver elements along the left side and different phases of the mission along the top. It illustrates the platoon's role throughout the operation. The platoon should always be included as a subunit in the matrix.

WEAPON	AMMUNITION		METERS	
	MODEL	TYPE	MINIMUM RANGE	MAXIMUM RANGE
60-mm M224	M720/M889	HE*	70	3,500
	M722	WP**	70	3,500
	M721	ILLUM***	200	3,500
	M302A1	WP	35	1,830
	M83A3	ILLUM	725	950
	M49A4	HE	45	1,830
81-mm M29A1	M374A2	HE	70	4,600
	M374A3	HE	73	4,790
	M375A2	WP	73	4,595
	M301A3	ILLUM	100	3,950
81-mm M252	M821/M889	HE	80	5.800
	M374A3	HE	73	4,790
	M819	RP****	300	4,800
	M375A2	WP	73	4.595
	M853	ILLUM	300	5,060
	M301A3	ILLUM	100	3,950
107-mm M30	M329A2	HE	770	6,840
	M329A1	HE	920	5,650
	M328A1	WP	770	5,650
	M335A2	ILLUM	440	5,490
120-mm M120	M77	HE	200	7.200
	M68	WP	200	7,200
	M91	ILLUM	200	7,100
	M933	HE (PD)	200	7,200
	M934	HE (MOF)	200	7,200
	M929	WP	200	7,200
	M930	ILLUM	200	7,200

* High Explosive
** White Phosphorus
*** Illumination
**** Red Phosphorus

Table 7-1. Mortar capabilities.

UNIT	PHASE/TRIGGER LINES				
	PL MACE	PL BOW	PL ARROW	PL BLUE	
5-87					
A-CO			BB 3401	BB 3111 BB 0012 ←MORTAR PRIORITY→	
B-CO	BB 0001 BB 3003 ←FA PRIORITY→	BB 3001 ←MORTAR PRIORITY→			
C-CO			BB 3010		
AT		BB 0007 BB 3002	BB 0013 BB 0009 ←FA PRIORITY→	BB 0015 GP B1B	
RECON PLATOON	BB 0029 BB 3004	BB 0017			
MORTARS	PSN A1, A2	BB 3001 PSN B1	PSN B2, C1	BB 3111 PSN C2	

FA ORGANIZATION FOR COMBAT	MORTAR POSITIONS	AMMUNITION AVAILABLE
4-5 FA (105) DS TO 2 BDE	PSN A1 123455 A2 124456 PSN B1 1274556 B2 128452 PSN C1 131500 C2 130495	30 MIN ARTY SMOKE 20 MIN MORTAR SMOKE 30 MIN ARTY ILLUM 30 MIN MORTAR ILLUM

FS COORD MEASURES	TACAIR
CFL: PL BOW O/O CFL: PL ARROW O/O CFL: O/O CFL:	4 TF SORTIES 4 ACAs (#) 20-23 (SEE ACA OVERLAY)

FASCAM	BDE CDR TGT. GUIDANCE	HIGH PAYOFF TARGETS
TF ALLOCATION: 2 BDE 2 PLANNED: 195450 200444 199455 221456	DEST ADA NEUT RECON ELEMENTS SUPPRESS AR, MECH PLTS	ZSU 32-4, SA 9 MRB's CRP (3 BMPs, 1 BRDM) ENGINEERS

COC IS: - A - , - B - , - C - , FSO WITH - A - FSE BEING O/O BN FSE

SOI

DAY - 1 - FA DS BN CDR: H70__ A FSO: A99__ FA FDC: __H55__

CF 2: 45.20 BDE FSCOORD: E24__ B FSO: B99__ MORTAR FDC: __U55__

FD 1: 55.70 BDE FSO: J99__ C FSO: C99__

MORTAR: 32.60 BN FSO: C99__ OIC - O - NCOIC - N - RATELO - R -

COORDINATING INSTRUCTIONS:

1. TARGET ALLOCATION: A 3, B 3, C 2
2. CUTOFF FOR TARGET SUBMISSION 052200 OCT.
3. SURVEY TARGETS FOR A, B, MORTAR FIRING POSITIONS. FSOs TAKE SURVEY TO NEXT LOCATION.

Figure 7-1. Example of a fire support matrix.

b. The reconnaissance platoon may be required to call for and adjust indirect fire support IAW the battalion fire support matrix. The platoon may have designated target reference points (TRPs). TRPs are pre-planned artillery targets that the platoon uses to call for and adjust indirect fire. The use of TRPs and proper procedures to call for fire is critical in order to receive immediate indirect fire. If available, the use of global positioning systems and laser range finders assist the platoon in calling for fire. Unless FOs are supporting the reconnaissance platoon, the platoon is responsible for calling and adjusting indirect fire. The call for fire is a message prepared by an observer. Any soldier in the platoon can request indirect fire support by calling for fire. (For additional information, see FM 6-30.)

(1) Calls for fire must include–

(a) *Observer identification and warning order.*

- Adjust fire-uncertain of target location.
- Fire for effect —rounds on target; no adjustment.
- Suppress—used to obtain fire quickly.
- Immediate suppression—used when being engaged by enemy; must give target identification.

(b) *Target location methods.* Target location is sent in six digits. The direction is given in mils and is sent before the first adjusting rounds are shot. The direction is the location of the observer to the target (observer-target [OT] line). The FDC must know the observer's exact location. The observer sends OT line and distance (to the nearest 100 meters) from his position to the target.

- Grid (Figure 7-2).
- Polar (Figure 7-3, page 7-6).
- Shift from a known point (Figure 7-4, page 7-7).
- Range shifts and lateral shifts (Figure 7-5, page 7-8).

(c) *Target description.* Give a brief description of the target using the acronym "SNAP."

- Size/shape.
- Nature/nomenclature.
- Activity.
- Protection/posture.

(2) A call for fire may also include the following information (optional elements):

(a) *Method of engagement.* The method of engagement consists of the type of adjustments, danger close, trajectory, ammunition, and distribution.

(b) *Method of fire and control.*

- At my command—fired at observer's command.
- Cannot observe-fire will not be observed.
- Time on target—rounds land at specified time.
- Continuous illumination—FDC will determine when to fire.
- Coordinated illumination-observer determines when to fire.
- Cease loading—used when two or more rounds in effect (causes loader to stop loading).
- Check firing-temporary halt in firing.
- Continuous fire-will continue to fire unless told to stop.
- Repeat—will repeat last mission.

(c) *Refinement and end of mission.*

- Correct any adjustments.
- Record as target.
- Report battle damage assessment.

(d) *Danger close (announced when applicable).*

- FA mortars-danger-close target is within 600 meters of any friendly troops.
- Naval gunfire-danger-close target is within 750 meters when using 5-inch or smaller guns (1,000 meters for larger naval guns).
- Creeping method of adjustment—the FO uses the creeping method of adjustment (corrections of no more than 100 meters) exclusively during danger-close missions.

FIRE MISSION (GRID)

INITIAL FIRE REQUEST

Observer	FDC
Z57 THIS IS 271, ADJUST FIRE, OVER.	
	THIS IS Z57, ADJUST FIRE, OUT.
GRID NK 180513, OVER.	
	GRID NK 180513, OUT.
INFANTRY PLATOON IN THE OPEN, ICM IN EFFECT, OVER.	
	INFANTRY PLATOON IN THE OPEN, ICM IN EFFECT, AUTHENTICATE PAPA BRAVO, OVER.
I AUTHENTICATE CHARLIE, OUT.	

MESSAGE TO OBSERVER

Observer	FDC
	Z, 2 ROUNDS, TARGET AF1027, OVER.
Z, 2 ROUNDS, TARGET AF1027, OUT.	
DIRECTION 1680, OVER.	
	DIRECTION 1680, OUT.

NOTE: Direction is sent before or with the first subsequent correction.

Figure 7-2. Example fire mission (grid).

FIRE MISSION (POLAR)

INITIAL FIRE REQUEST

Observer	FDC
Z56 THIS IS Z31, FIRE FOR EFFECT, POLAR, OVER.	
	THIS IS Z56, FIRE FOR EFFECT, POLAR, OUT.
DIRECTION 4520, DISTANCE 2300, DOWN 35, OVER.	
	DIRECTION 4500, DISTANCE 2300, DOWN 35, OUT.
INFANTRY COMPANY IN OPEN, ICM, OVER.	
	INFANTRY COMPANY IN OPEN, ICM, AUTHENTICATE TANGO FOXTROT, OVER.
I AUTHENTICATE ECHO, OUT.	

MESSAGE TO OBSERVER

Observer	FDC
	Y, VT, 3 ROUNDS, TARGET AF2036, OVER.
Y, VT, 3 ROUNDS, TARGET AF2036, OUT.	

Figure 7-3. Example of a fire mission (polar plot).

FIRE MISSION (SHIFT FROM A KNOWN POINT)

INITIAL FIRE REQUEST

Observer	FDC
66 THIS IS H44, ADJUST FIRE, SHIFT AA7733, OVER.	
	THIS IS H66, ADJUST FIRE, SHIFT FIRE, SHIFT AA7733, OUT.
DIRECTION 5210,LEFT 380, ADD 400, DOWN 35, OVER.	
	DIRECTION 5210, LEFT 380, ADD 400, DOWN 35, OUT.
COMBAT OP IN OPEN, ICM IN EFFECT, OVER.	
	COMBAT OP IN OPEN ICM IN EFFECT, AUTHENTICATE LIMA FOXTROT, OVER.
I AUTHENTICATE PAPA, OUT.	

MESSAGE TO OBSERVER

Observer	FDC
	H, 1 ROUND, TARGET AA7742, OVER.
H, 1 ROUND, TARGET AA7742, OUT.	

Shift from a known point is performed when the observer and FDC have a common known point. The observer sends OT line then determines the lateral and range shifts.

Figure 7-4. Example of a fire mission (shift from a known point).

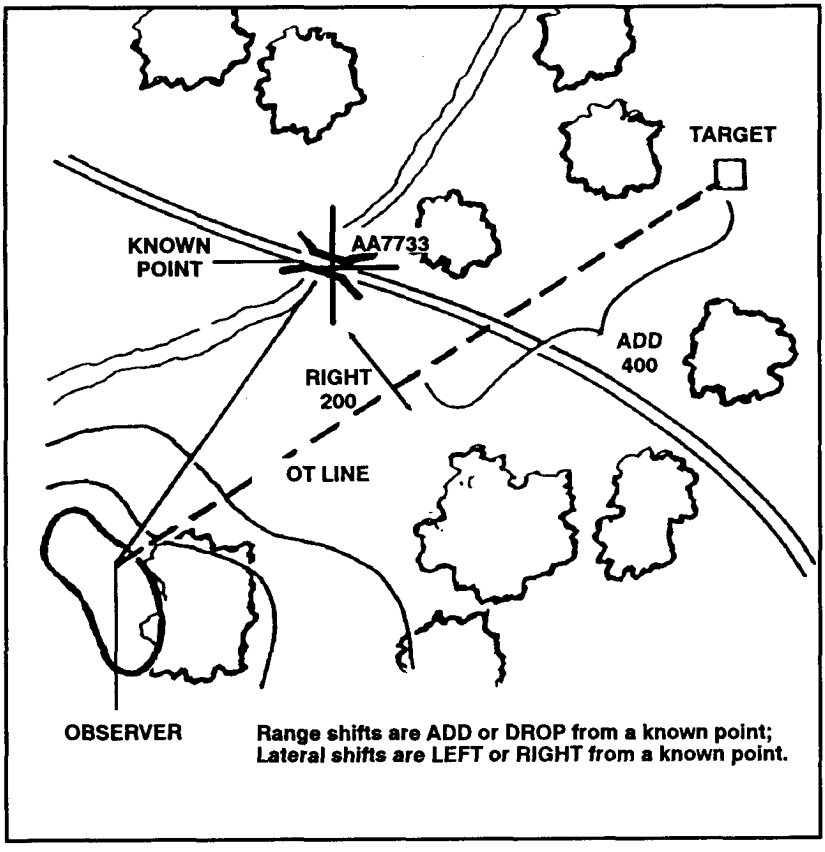


Figure 7-5. Lateral and range shifts.

c. Once the call for fire has been made, the observer adjusts the fire onto the target. If he has accurately located the target, he requests, "Fire for effect." When the observer cannot locate the target (due to deceptive terrain, lack of identifiable terrain features, poor visibility, or an inaccurate map), he adjusts the impact point of the rounds. During adjustment, one artillery piece or mortar is used. The observer chooses an adjusting point. For a destruction mission (precision fire), the target is the adjusting point. For an area target (area fire), the observer picks a well-defined adjusting point close to the center. The observer spots the first and each successive adjusting round, and he sends range and deviation corrections back to the FDC until rounds hit the target. The observer spots by relating the round's point of impact to the adjusting point. (See FM 6-30 for a more detailed discussion of adjusting mortar and artillery fire.)

(1) **Deviation spotting.** Deviation (left or right) spotting involves measuring the horizontal angle (in mils) between the burst and the adjusting point (Figure 7-6). A burst to the right (left) of the target is spotted as "(so many) mils right (left)." An angle-measuring device is used to determine deviation. The mil scale on binoculars or the fingers and hand may be used (Figures 7-7 and 7-8).

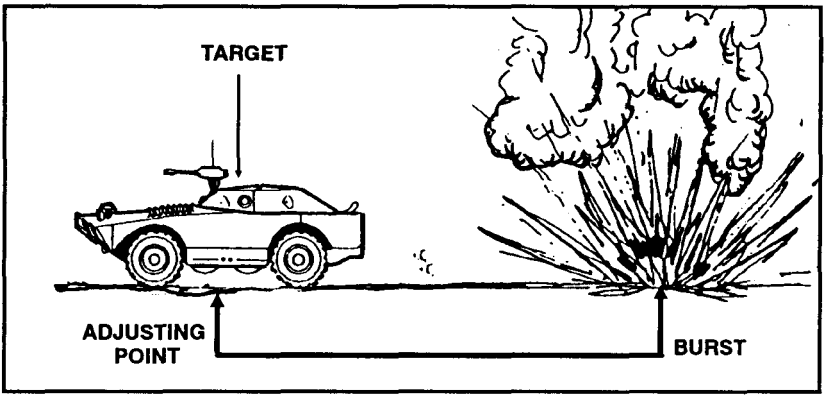


Figure 7-6. Deviation spotting.

(a) The horizontal scale on binoculars, divided into 10-mil increments, is used for measuring horizontal angles. The vertical scales, in 5-mil increments, in the center and on the left of the reticle are used for measuring vertical angles. The scale on the right, if present, is no longer used. (Figure 7-7.)

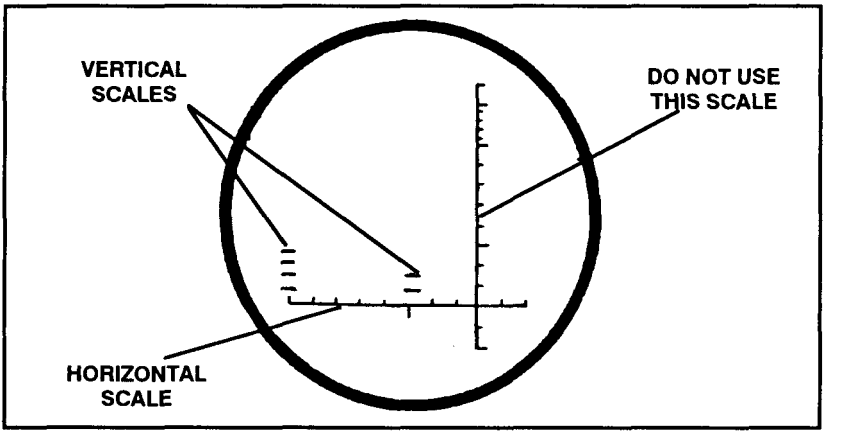


Figure 7-7. Mil scale on M17 binoculars.

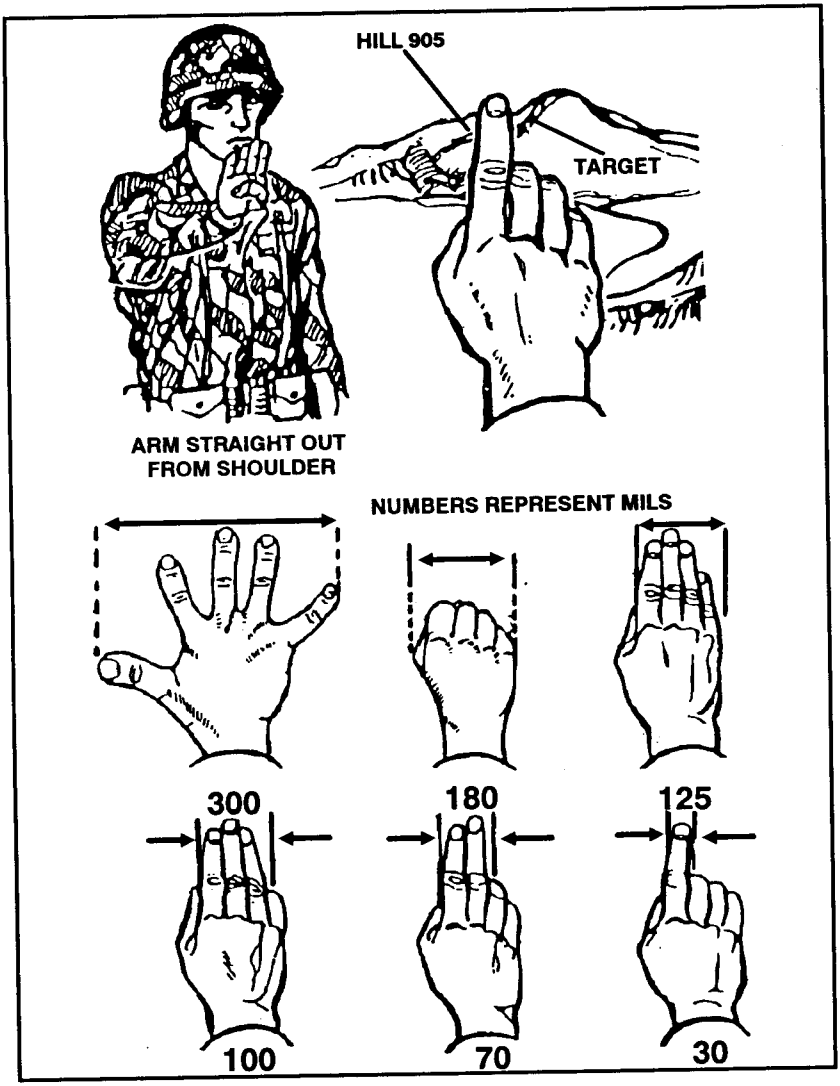


Figure 7-8. Hand and fingers used to determine deviation.

(b) A burst on the OT line is spotted as "Line." Deviation (left or right) should be measured to the nearest 5 mils for area targets, with measurements taken from the center of the burst. Deviation for a destruction mission (precision fire) is estimated to the nearest mil. (Figure 7-9, page 7-12) shows the adjusting point is at the center of the binocular horizontal scale.)

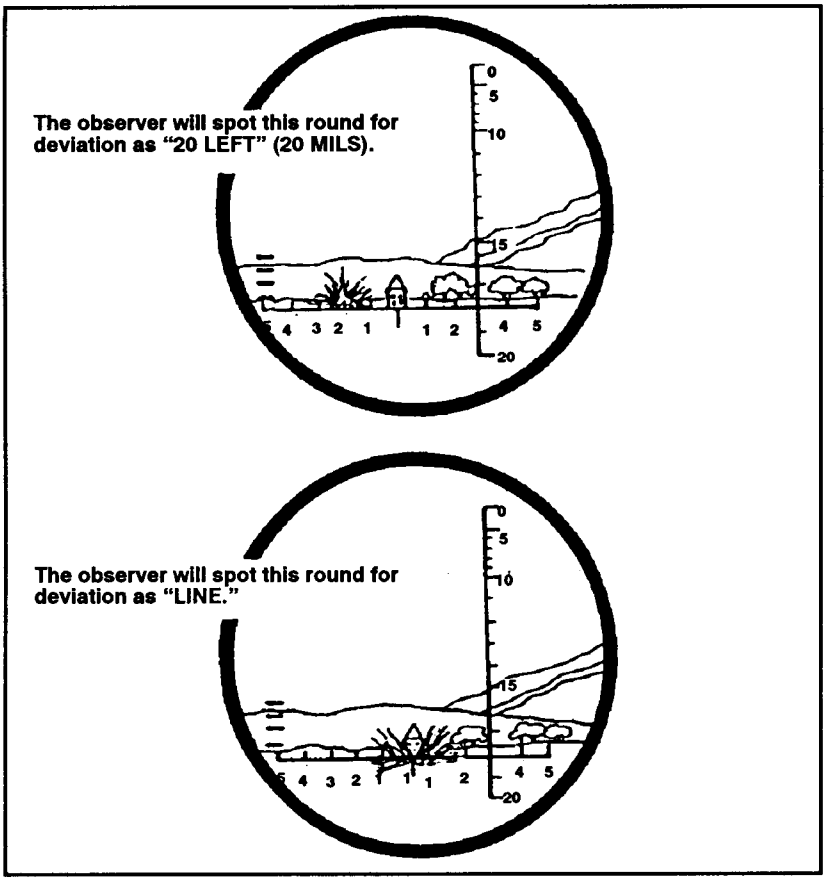


Figure 7-9. Deviation spotting with binoculars.

(2) ***Deviation correction.*** Deviation correction is the distance (in meters) the burst must be moved left or right to be on line between the observer and the target. Once the mil deviation has been determined, the observer converts it into a deviation correction (in meters). This is sent with the range correction to the FDC for the next adjusting round or when calling for fire for effect. The deviation correction is determined by multiplying the observed deviation in mils by the distance from the observer to the target in thousands of meters (the OT factor). The result is expressed to the nearest 10 meters. A minor deviation correction (10 to 20 meters) should be made in adjustment of precision fire. In adjustment of area fire, small deviation corrections (20 meters or less) can be ignored except when a small change determines a definite range spotting. Throughout the adjustment, the observer moves the adjusting rounds

close enough to the OT line so that range spotting is accurate. The OT distance that is greater than 1,000 meters: Round to the nearest thousand, and express in thousands of meters. The OT distance that is less than 1,000 meters: Round to nearest 100 meters, and express in thousands of meters.

EXAMPLE
OT distance, 4,200 meters—OT factor, 4.0
OT distance, 2,700 meters-OT factor, 3.0

EXAMPLE
Observer deviation 20 mils
OT distance 2,000 meters
OT factor 2
Observer deviation x OT factor = deviation correction.
20 x 2 = 40 meters

EXAMPLE
OT distance, 800 meters—OT factor, 0.8

(3) ***Angle T.*** Angle T (Figure 7-10, page 7-14) is the angle formed by the intersection of the gun-target line and the OT line with its vertex at the target. If angle T is 500 mils or greater, the FDC should tell the observer. If the observer is told that angle T is 500 mils or greater, at first he continues to use the OT factor to make his deviation corrections. If he sees that he is getting more of a correction than he asked for, the observer should consider cutting the corrections to better adjust rounds onto the target.

(4) ***Range spotting.*** Range spotting (short or over) requires adjusting the range to obtain fire on the target. An adjusting round's burst on or near the OT line gives a definite range spotting. "Lost" or "doubtful" spottings are given if a definite spotting is not possible. In these situations only, the deviation correction is given to the FDC.

(a) *Over.* Burst appears beyond the adjusting point.

(b) *Short.* Burst appears between the observer and the adjusting point.

(c) *Target.* Burst hits the target. This spotting is used only in precision fire (destruction missions).

(d) *Range* correct. Burst appears to be at the correct range.

(e) *Doubtful.* Burst can be observed but cannot be spotted as over, short, target, or range correct.

(f) *Lost, over or lost, short.* Burst is not observed but is definitely known to be beyond or short of the adjusting point.

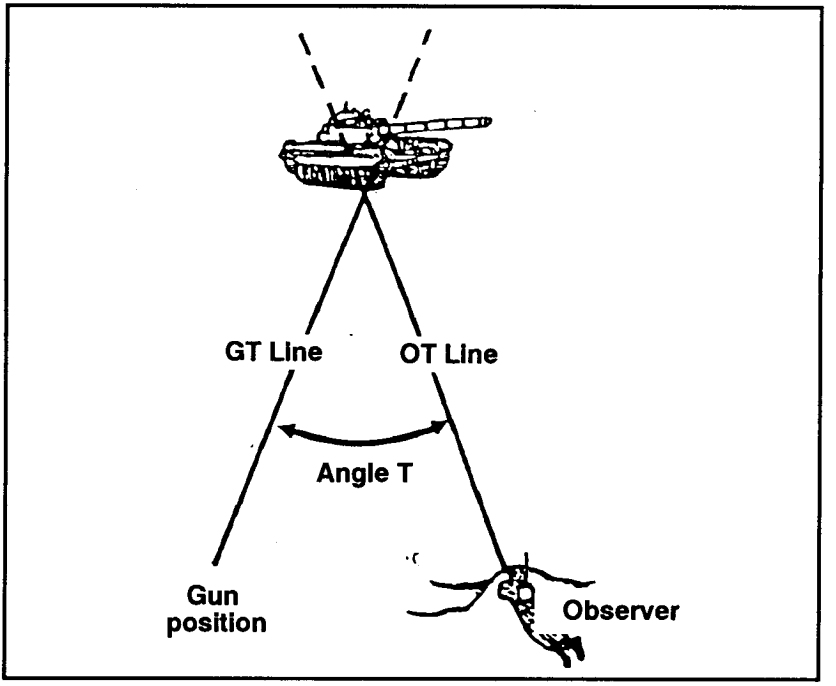
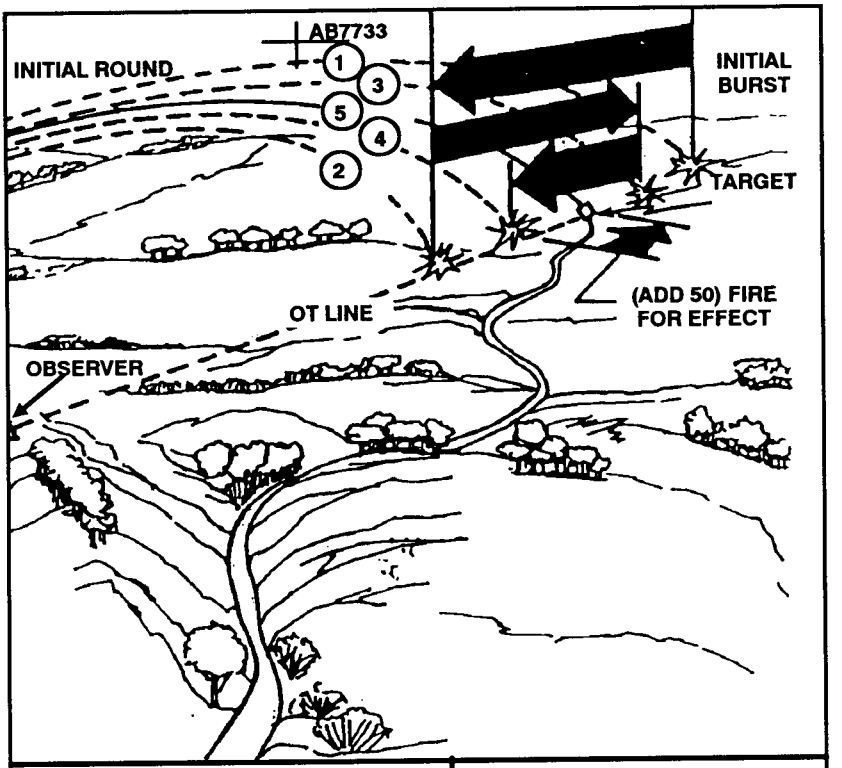


Figure 7-10. Angle T.

(5) Range correction. The observer gives range corrections so that with each successive correction the adjusting round lands over or short of the adjusting point, closing on the target. FFE is called for when a range correction brings the next round within 50 meters of the adjusting point. FFE is called for when a 100-meter bracket has been split; for example, "Drop 50, tire for effect." This technique is called successive bracketing (Figure 7-11). When bracketing, the observer uses the following guide to determine his first range correction:

- If OT range is 1,000 to 2,000 meters, add or drop a minimum of 200 meters.
- If OT range is more than 2,000 meters, add or drop a minimum of 400 meters.

(a) Bracketing is a technique that brings fire on a target. Time is important, especially when targets are moving or seeking cover from fire. Accurate, initial data speed adjustments makes the requested fire more effective. To shorten adjustment time, the observer tries to bracket the target with the first two or three adjusting rounds.



When bracketing, the observer should use the following guide to determine the first range correction:

If OT range is-	Add or drop a minimum of-
1,000 to 2,000 meters	200 meters
Over 2,000 meters	400 meters

The observer should call for fire for effect when a 100-meter bracket has been split.

EXAMPLE:

"DROP 50, FIRE FOR EFFECT."

Figure 7-11. Successive bracketing technique.

(b) The effect on the target decreases as the number of rounds used in adjustment increases. An alternative technique to successive bracketing is **hasty bracketing.** Successive bracketing ensures that the FFE rounds impact within 50 meters of the adjusting point. If effective fires are needed faster than successive bracketing can provide, hasty bracketing

should be used. A successful hasty bracketing depends on a thorough terrain analysis, which gives the observer an accurate initial target location. The observer receives a bracket on his first correction similar to that used for successive bracketing. Once the observer has this initial bracket, he uses it as a yardstick to determine the subsequent correction. He then sends the FDC the correction to move the rounds to the target and to fire for effect (Figure 7-12). Hasty bracketing improves with observer experience and judgment.

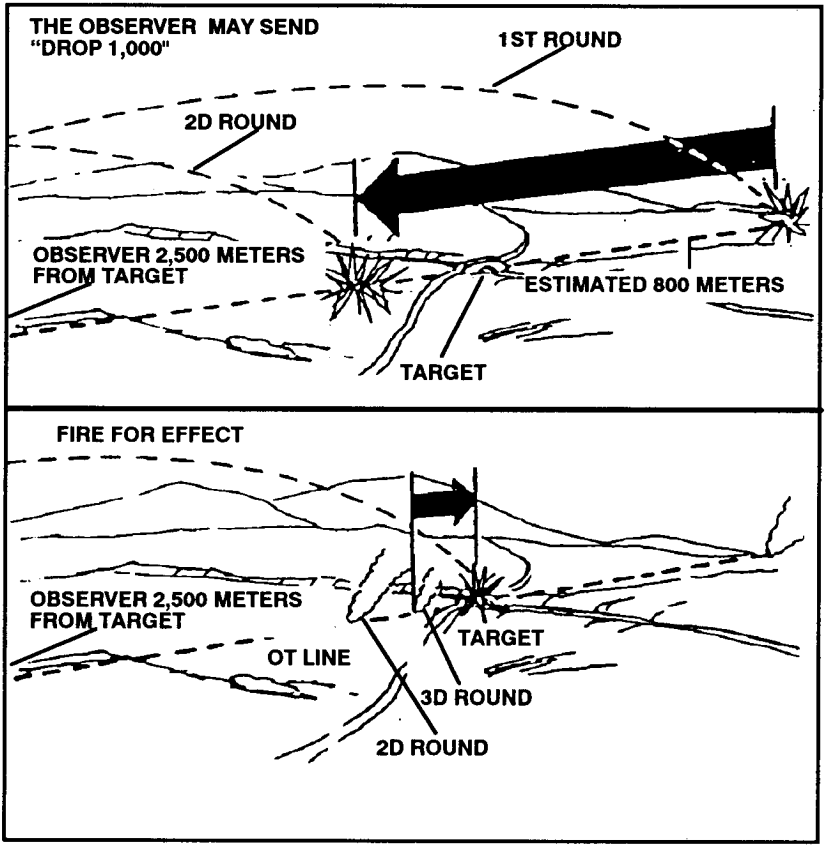


Figure 7-12. Hasty bracketing technique.

(c) The creeping method of adjustment is used in danger-close situations. The initial round is intentionally fired beyond the target. Adjusting rounds are brought closer in 100-meter increments or less until the target is engaged (Figure 7-13). This method is slow and requires more

ammunition than other methods. It should be used only when safety is an overriding concern.

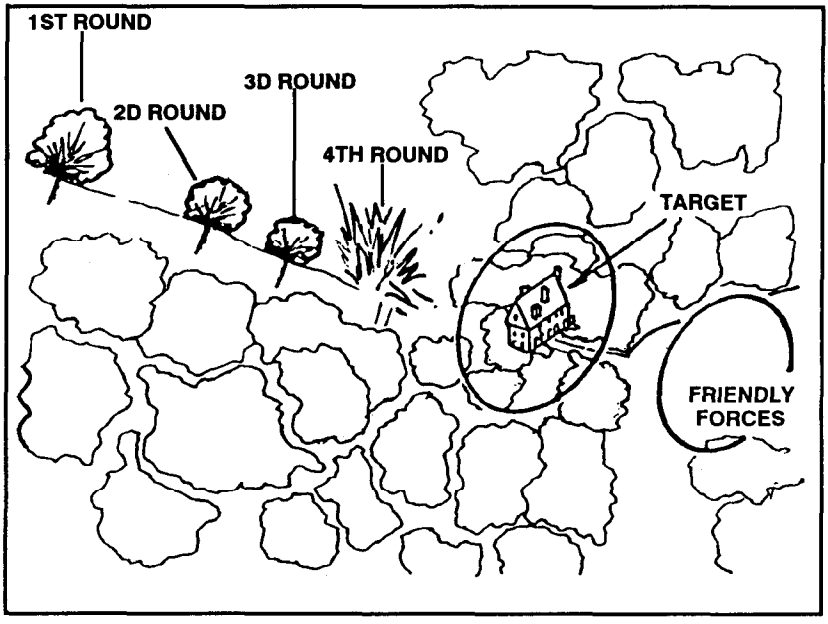


Figure 7-13. Creeping method of adjustment.

7-2. CLOSE AIR SUPPORT

The USAF, USMC, or USN may provide CAS to light infantry battalions. CAS missions are flown against hostile targets near friendly forces. The forward air controller (FAC) is the battalion commander's expert in planning, requesting, and executing CAS missions. The FAC serves as a link between the maneuver element and the attacking aircraft. The reconnaissance platoon may provide information that is used by the FAC to target enemy forces. Reconnaissance platoon soldiers may be required to provide emergency control if an FAC, FSO, or FO is not available (the battalion commander accepts responsibility for friendly casualties). This is possible only with aircraft equipped with FM radios (A-7, A-10, F16, C-130). (For additional information, see FM 6-30.) The platoon may also provide information on battle damage as observed. This information is reported in the following format:

Battle Damage Assessment

- Successful or unsuccessful.
- Target coordinates.

- Time on target.
- Number and type destroyed.
- Number and type damaged.
- Killed by air.
- Wounded by air.
- Dud bombs.

a. **AC-130 Gunship.** If the threat of enemy air defense is low, the battalion requests CAS from an AC-130 gunship. The AC-130 flies CAS and special operations, and it provides effective fires during day and night operations. The aircraft contains one 40-mm gun, two 20-mm guns, two 7.62-mm miniguns, and one 105-mm howitzer. It is equipped with sensors and target acquisition systems that include forward-looking infrared radar and low-light television.

b. **Marking Friendly Positions.** Whenever possible, friendly positions are marked to enhance safety and to provide target area references. Methods of marking friendly positions include:

- Flares.
- Strobe lights (infrared, blue filters).
- Reflective panels.
- Night vision goggles (infrared).
- Glint reflective tape.
- Chemical lights.
- Smoke.
- Mirrors.

7-3. ATTACK HELICOPTERS

The primary mission of attack helicopter units is to destroy armor and mechanized forces. Attack helicopters are employed in combined arms operations to increase weapons and aircraft capabilities in accomplishing the commander's mission. Attack helicopter companies are integrated into the ground scheme of maneuver. When working with ground maneuver forces, the attack helicopter unit can be placed under OPCON of the ground maneuver force. Normally, they are under OPCON of a maneuver brigade; on rare occasions, they may be OPCON to a battalion. Aeroscouts arrive before attack aircraft and establish communications with ground forces to obtain information on the situation and mission from the commander. The aeroscouts identify targets, choose general attack positions, and control attack helicopter fire. During the conduct of passage of lines, the platoon may direct attack helicopter tires into known enemy locations and may receive information not visible from the ground.

The AH-1 and AH-64 are the Army's attack helicopters. The AH-64's weapon systems and target acquisition system locate and destroy targets beyond 5,000 meters. The AH-64 is designed to operate during limited visibility.

Section II. AIR DEFENSE, COMBAT ENGINEERS, AND MILITARY INTELLIGENCE

Additional combat support available to the reconnaissance platoon includes air defense assets, combat engineers, and military intelligence assets. This section discusses the abilities and missions of these assets. These combat multipliers increase the reconnaissance platoons' ability to survive on the battlefield and to perform reconnaissance and security missions.

7-4. AIR DEFENSE

The Vulcan platoon or Stinger section can support the infantry battalion. Although the reconnaissance platoon's role in air defense is limited to reporting enemy aircraft, passive and active air defense measures should be practiced for protection against enemy air attack.

a. **Passive Air Defense.** Passive air defense includes all measures other than active taken to reduce the effects of hostile air action.

(1) ***Attack avoidance.*** An enemy pilot cannot attack what he cannot see. Soldiers use concealment, camouflage, and deception to prevent the enemy from seeing them. When adequate concealment is not available, soldiers must use camouflage. They also conceal objects that reflect light and attract attention.

(2) ***Damage-limiting measures.*** Damage-limiting measures are those taken to reduce the effects of an enemy air attack. When an attack is imminent, the platoon disperses, moves to a concealed position, and stops. These actions reduce the probability of being spotted and, if spotted, reduce the effects of enemy munitions.

(3) ***Air defense warnings.*** Air defense conditions are stated in the OPORD. RED indicates that an attack is imminent; YELLOW indicates that an attack is probable; and WHITE indicates that an attack is not likely.

b. **Active Air Defense.** The reconnaissance platoon avoids engaging enemy aircraft, if possible. However, if unavoidable, try to mass fires and aim in front of the aircraft allowing the aircraft to fly into the path of fire. The platoon leader establishes the aiming point based on the type of aircraft that is attacking.

(1) ***Weapon control status.*** The weapon control status determines the conditions for using weapons against enemy aircraft.

(a) *Weapons free* —weapons fire at aircraft not positively identified as friendly.

(b) *Weapons tight* —weapons fire only at aircraft identified as hostile according to announced hostile criteria.

(c) *Weapons hold* —weapons DO NOT fire except in self-defense. (The reconnaissance platoon should always be in a weapons-hold status.)

(2) ***Man-portable air defense systems.*** The Stinger is designed to counter enemy aircraft. A Stinger team provides protection to the entire battalion and focuses on protection of critical battalion assets. When a Stinger team is working with the reconnaissance platoon, caution must be used when firing the weapon. The Stinger leaves a signature and may disclose the platoon's position.

7-5. COMBAT ENGINEERS

An engineer platoon or company may be placed in DS of a battalion. Engineers supporting dismounted infantry forces are Sappers. Sappers are trained to conduct reconnaissance, to evaluate obstacles, and to use demolitions and field expedients. Engineer missions are divided into these categories: mobility, countermobility, and survivability. (The tasks provided with each of these categories are shown in Table 7-2.) Engineers also assist the reconnaissance platoon during reconnaissance and security operations.

MOBILITY	COUNTERMOBILITY	SURVIVABILITY
Breaching obstacles. Clearing minefields. Clearing routes. Expedient gap crossing. Constructing combat roads or trails.	Constructing obstacles to turn, fix, block, or disrupt enemy forces.	Constructing crew-served weapons and vehicle fighting positions.

Table 7-2. Engineer missions.

a. **Reconnaissance Operations.** In reconnaissance operations, an engineer squad can be in OPCON to a reconnaissance platoon. The engineer squad aids in mobility operations and provides technical advice to the platoon leader as to what effort and equipment are required to breach a certain obstacle. This information can be relayed back to the battalion to aid in its breaching preparations. The actual breaching abilities of an engineer squad are limited to manual and explosive

methods. (The platoon provides security for the engineer squad while it is conducting breaches.) The engineer squad can—

- Conduct route and bridge classification.
- Aid in locating bypasses around obstacles.
- Conduct limited breaching operations through log cribs, abatis, and minefields.

b. **Bypassing of Enemy Obstacles.** The enemy uses obstacles to canalize and block the advance of friendly forces. The reconnaissance locates obstacles and tries to find a way to bypass them, or they establish surveillance on the obstacle.

(1) The first action is to seek a bypass. When the platoon bypasses an obstacle, it reports the type and location of the obstacle to the commander. The bypass should be conducted using stealth and cover and concealment. An attempt should be made to locate enemy overwatch positions. If the platoon cannot locate a bypass, it establishes surveillance and reports to battalion.

(2) Obstacles that cannot be bypassed are breached by a force other than the reconnaissance platoon. Obstacles are covered by planned direct and indirect fires. Breaching forces must keep the enemy from knowing where and when the breach occurs so that the enemy cannot concentrate his fire on the breaching site. The reconnaissance platoon and engineers determine the areas that allow for these actions to take place-for example, enemy positions, weak points in the obstacle, support positions for suppressing the enemy, or routes up to an obstacle. When breaching obstacles, use **SOSR:**

Suppress forces covering the breach site.
Obscure the area to be breached.
Secure the breach site.
Reduce the obstacle.

c. **Security Operations.** Insecurity operations, the platoon does not have engineer assets working under its control; engineer. assets work under battalion control. Therefore, the platoon leader must know the battalion's obstacle plan, which includes locations of lanes and gaps. The platoon may guard and execute targets that engineer forces have prepared. This is called **target turnover.** Due to the large number of missions received by engineers, the platoon may be directed to execute some obstacles. To do this efficiently, leaders must know the procedures for turnover. (For more information, refer to FM 7-10 and FM 7-20.)

7-6. MILITARY INTELLIGENCE

The reconnaissance platoon cannot provide all the information needed by battalion. Therefore, the battalion uses internal and external troops and equipment to assist in the collection effort. Internal assets consist of organic infantry platoons. External assets normally consist of GSR teams and remote sensor teams. The platoon leader must integrate these assets into his plan. These assets increase the capabilities and effectiveness of the reconnaissance platoon.

CHAPTER 8
COMBAT SERVICE SUPPORT

Combat service support elements arm, fuel, fix, feed, clothe, and provide health service support, transportation, and personnel for the reconnaissance platoon. The reconnaissance platoon leader is responsible for supervising CSS within the reconnaissance platoon. The PSG is the CSS operator for the reconnaissance platoon. He advises the platoon leader on the logistical requirements and informs the platoon leader of the platoon's logistical status. The PSG is assisted by the squad leaders.

8-1. ORGANIZATION

The reconnaissance platoon has no organic CSS assets. The PSG coordinates directly with his supporting XO, 1SG, or S4 for all CSS. He is the main recipient for all maintenance, supply, and personnel reports.

a. The reconnaissance platoon presents complex, logistical considerations for the battalion staff. The reconnaissance platoon normally operates forward of the battalion. It deploys earlier and stays away longer than other battalion elements. During combat operations, the PSG coordinates directly with the 1SG or S4 to discuss support requirements and problems.

b. The battalion staff plans and coordinates for all CSS. The logistical plan is implemented by the battalion S4, support platoon leader, company 1SG, supply sergeant, PSG, and squad leader. The reconnaissance platoon's SOP should address the duties and responsibilities to standardize routine and recurring CSS operations. (See Appendix D.)

8-2. ADMINISTRATION

Proper handling of paperwork is necessary for both efficiency and morale. The battalion PAC provides most of the administrative support. Information is passed from the reconnaissance platoon to the PAC through the S1 or the PAC supervisor. Though the system is informal, the information must be accurate and timely. The reconnaissance platoon administration consists of personnel services and replacement operations.

a. **Personnel Service Support.** Although many of the services are automatically provided, the reconnaissance platoon leader and PSG are responsible for ensuring these services are provided for the reconnaissance platoon. Services include—

- Awards and decorations.
- Leaves and passes.
- Command information.
- Mail.

- Religious services.
- Financial services.
- Legal assistance.
- Welfare.
- Rest and relaxation.

(1) The reconnaissance PSG is responsible for reporting or requesting changes in personnel records, promotions and reductions, and classifications or reclassifications.

(2) Based on local SOP, a strength accounting report is sent to battalion headquarters over the admin/log net, detailing strength by officer, enlisted, and attached personnel. These reports are used to determine the quantity of rations, water, and ammunition for the reconnaissance platoon; they must be accurate. At higher echelons, these reports determine who receives priority for replacement troops.

(3) A DA Form 1156 (Figure 8-1) is completed when a casualty occurs or as soon as the tactical situation permits. Known information should be completed on the form before a casually occurs. The form can then be placed in a common location (for example, top pocket of BDU). The soldier's squad leader usually prepares the form and gives it to the PSG. The PSG then forwards the completed form to the battalion S1 or medical personnel. A brief description is included on how the casualty occurred, the place, the time, the activity performed, and who or what inflicted the wound. If the squad leader does not have personal knowledge of how the casualty occurred, he obtains this information from a soldier who does. DA Forms 1155 and 1156 (Figure 8-2, page 8-4) are completed within 24 hours or as soon as the tactical situation permits. This information is used to inform the casualty's next of kin and to provide a statistical base for analysis of friendly or enemy tactics.

b. **Replacement Operations.** Integrating replacements into the reconnaissance platoon is important. Normally, reconnaissance platoon replacements come from the rifle companies. This provides the platoon with experienced soldiers who are familiar with a combat environment, battalion SOPS, and the chain of command. The platoon leader and PSG welcome each soldier to the platoon, explain the standards, and introduce the soldier to his squad leader. The PSG obtains battle roster information and ensures the company 1SG has the information.

(1) The squad leader introduces the soldier to the squad and then briefs him on duty positions. He also ensures the soldier has a serviceable weapon, ammunition, MOPP gear, and essential equipment. This in-briefing also includes recent, current, and planned activities of the squad and platoon.

CASUALTY FEEDER REPORT (AR 600-10)	CONTROL NO.	CHECK APPLICABLE BOX: [X] HOSTILE ACTION [ ] NON-HOSTILE ACTION

1. LAST NAME - FIRST NAME - MIDDLE INITIAL: RAMIREZ, RICHARD

2. SERVICE NO.	3. GRADE	4. HOUR AND DATE OF INCIDENT
000-00-0000	E5	2022002OCT 89

5. UNIT	6. GEOGRAPHICAL LOCATION (nearby town) AND GRID COORDINATES
SCT PLT 7-6 INF	BAMBERG

7. TYPE OF CASUALTY (Check applicable box(es))

	KILLED IN ACTION		MISSING IN ACTION	X	WOUNDED OR INJURED IN ACTION
	DIED OF WOUNDS OR INJURIES		CAPTURED		LIGHTLY WOUNDED OR INJURED IN ACTION *
	DIED NOT AS RESULT OF HOSTILE ACTION		DETAINED		SERIOUSLY WOUNDED OR INJURED IN ACTION *
BODY RECOVERED [ ] YES [ ] NO			INTERNED		SERIOUSLY INJURED NOT AS RESULT OF HOSTILE ACTION
BODY IDENTIFIED [ ] YES [ ] NO			MISSING		LIGHTLY INJURED NOT AS RESULT OF HOSTILE ACTION

EVACUATED TO: BN AID STATION

* To be indicated by medical personnel only.

DA FORM 1156, 1 Jun 66 — REPLACES EDITION OF 1 MAY 61, WHICH WILL BE ISSUED AND USED UNTIL EXHAUSTED.

8. WITNESSES WHO SAW INCIDENT OR IDENTIFIED REMAINS (Name, grade, service number and unit)

JEFF RHEINWALD E6 000-00-0000, SCT PLT, 7-6INF
JIMBO KELLER E4 000-00-0000, SCT PLT, 7-6INF

9. REMARKS (Additional circumstances, any religious ministration performed, etc.)

SGT RAMIREZ STEPPED ON A LAND MINE WHILE TRYING TO MOVE AROUND A MINEFIELD.

10. FOR USE BY C.O. OR MED OFF (only for casualties not the result of hostile action)	AUTHENTICATED BY (CO or Med Off)	VERIFIED BY (Pers Off)
LINE OF DUTY: [ ] YES [ ] NO [ ] UNDETM		

UNIT	GRADE	SERVICE NO.
SCT PLT, 7-6INF	E7	000-00-0000

DATE	SIGNATURE OF PERSON PREPARING REPORT
20 OCT 89	Oskar Carnot Kinkfighter III

☆ GPO-1981 346-179

Figure 8-1. Example of a DA form 1156.

WITNESS STATEMENT ON CASUALTY INCIDENT (AR 600-10)	CHECK APPLICABLE BOX ☐ Killed in Action/Dead (remains not recovered) ☐ Wounded in Action/Injured ■ Missing in Action/Missing ☐ Captured		
1. LAST NAME, FIRST NAME MI (of casualty) FOE, ROBERT	2. SSN —	3. RANK SP4	4. SEX M
5. ORGANIZATION C BATTERY 3/21ST FA	6. DATE OF DEATH OR WHEN LAST SEEN 2030, 12 NOV 82		
7. GEOGRAPHICAL LOCATION OF INCIDENT (Include grid coordinates and nearby town) AB 122 344 FULDA, FRG	8. OTHER PERSONS WHO MAY HAVE WITNESSED THIS INCIDENT OR HAVE FURTHER INFORMATION ISG SMITH C BATTERY 3/21ST FA		
9. CIRCUMSTANCES SURROUNDING INCIDENT (If known, include cause of death or condition when last seen, or how identified) SP4 FOE WAS THE RADIO OPERATOR FOR 2LT JONES, who WAS ATTACHED TO OUR PLATOON FOR A MISSION. (continued on back)			

DA FORM 1156 REPLACES EDITION OF 1 JUN 66, WHICH WILL BE ISSUED AND USED UNTIL EXHAUSTED.

9. CIRCUMSTANCES SURROUNDING INCIDENT (Continued) HE WENT ON PATROL WITH 2LT JONES ON 12NOV82. HE LEFT OUR LINES AT 2030. NEITHER ONE RETURNED. THEY DON'T ANSWER THE RADIO. FIRING WAS HEARD FORWARD OF OUR POSITION ABOUT 2300 HOURS.		
10. NAME OF PERSON MAKING STATEMENT Q. T. WILLIAMS	11. RANK PSG	12. SSN 000-00-0000
13. UNIT C BATTERY 3/21ST FA	14. DATE 13NOV82	15. SIGNATURE Q. T. Williams

Figure 8-2. Example of a DA form 1155.

(2) The soldier is briefed on SOPs and special information concerning the area of operations. He may be given a form letter to send to his next of kin. The letter tells them where to mail letters and packages, and how to use the American Red Cross in emergencies, and it introduces the chain of command.

8-3. LOGISTICS

Reconnaissance platoon logistics involve supply, transportation, and maintenance. The chain of command must stay abreast with the status of supplies and equipment.

a. **Supply/Requests.** The PSG coordinates and supervises the platoon's logistical effort. He receives requests for supplies and equipment from squad leaders, reviews them, and gives them to the supply sergeant or to the appropriate battalion staff section, depending on the battalion SOP.

b. **Ammunition Basic Load.** The basic load is the total amount of ammunition required to be on hand to meet combat needs until resupply can be accomplished. A reconnaissance platoon's basic load is different from an infantry platoon's basic load. The soldier's basic load includes small-arms ammunition, grenades, M203 rounds, and possibly Claymores. The platoon should not use large amounts of ammunition, except in cases of self-defense. The platoon requests additional or special ammunition through the battalion supply system.

c. **Supply System.** The supply systems consist of Classes I through IX.

(1) ***Class I*** (subsistence items and gratuitous issue health and welfare items). MREs are carried by each soldier, usually a three- to five-day supply. Hot meals are brought forward when possible if only to supplement MREs. All meals should be eaten in shifts but never in a centralized location. During continuous or cold-weather operations, soldiers should eat more than three meals a day; therefore, an extra food allowance is planned. Water is not a Class I supply item, but is associated and delivered with Class I. Water is delivered in water cans, disposable 5-quart bladders, trailers, collapsible drums, or pillow tanks that are filled at the BSA location. Aerial delivery of these containers can also be conducted. Depending on the environment, water can be one of the most critical supply items in the area of operations. Soldiers must be prepared to use natural water sources (after purifying) to help reduce the logistical burden. The platoon should know how to find, test, and use water sources. (See FM 21-76.) In areas where soldiers consume between 3 to 12 gallons of water a day, resupply is a constant challenge. Soldiers must always top off water containers, regardless of how little is needed.

(2) ***Class II*** (items of equipment, other than principal items, which are prescribed TDAs). Individual tools, individual equipment and clothing items, chemical lights, batteries, engineer tape, tentage, and housekeeping supplies are requested through the supply sergeant. The platoon deploys with enough Class II items until resupply can occur. Leaders tailor the soldier's load based on mission and ability for resupply.

(3) ***Class III*** (petroleum, oil, and lubricants). Class III is delivered to the platoon during resupply operations. If the platoon uses vehicles, they should be topped off whenever the tactical situation permits.

(4) ***Class IV*** (construction and barrier materials). Barrier materials, such as lumber, sandbags, concertina or barbed wire, and pickets, are used by the reconnaissance platoon for OPs and obstacles and to improve fighting positions. These materials are requested through the battalion or the company supply sergeant. They should be identified and requested during planning.

(5) ***Class V*** (ammunition). Class V is delivered to the platoon during resupply operations. Some ammunition is kept in the combat trains for immediate issue. The ammunition configuration in regards to the soldier's load is critical. The platoon leader weighs the soldiers' carrying capabilities against the various equipment and supplies required for a particular mission. Since the reconnaissance platoon engages with direct fire for protection only, most of its load consists of reconnaissance and surveillance devices (NVDs, binoculars, radios) rather than ammunition.

(6) ***Class VI*** (personal demand items). In a combat environment, Class VI may be sent with Class I as sundry packs, such as tobacco products, candy, and toiletry articles.

(7) ***Class VII*** (major end items). Class VII is major equipment that is assembled and ready (combat vehicles, missile launchers, HMMWVs, and major weapons systems). Major end items that are destroyed are immediately reported to higher headquarters. A report serves as a request for replacement.

(8) ***Class VIII*** (medical material). Normally, Class VIII supply for the reconnaissance platoon is provided by the supply section of the battalion HHC. Normal supplies include medical supplies, such as first-aid dressings, refills for first-aid kits, water purification tablets, and foot powder. The reconnaissance platoon's combat lifesaver ensures that the platoon has the necessary medical supplies to sustain it during combat operations. The reconnaissance platoon does not have a combat aidman. In emergency situations, the battalion medical platoon may provide critically needed supply items to combat lifesavers.

(9) ***Class IX*** (repair parts). Class IX is the basic load of repair parts that is part of the combat PLL. The reconnaissance platoon may carry

extra repair parts for items that are critical to mission accomplishment (for example, antennas, handsets).

d. **Resupply Techniques.** The battalion staff (S4 and XO) develops a plan for resupplying the reconnaissance platoon. The reconnaissance platoon leader ensures that his logistical needs (present and future) are addressed by the battalion. Without a workable plan, the combat effectiveness of the reconnaissance platoon diminishes. The reconnaissance platoon leader analyzes the logistical plan with the same detail that he does the tactical plan. The tactical situation dictates the methods used to resupply and sustain the reconnaissance platoon.

(1) The reconnaissance platoon can use the nearest company's CSS assets. The company commander must understand the importance of supporting the reconnaissance platoon. The reconnaissance platoon should have priority for supplies. This also applies when the reconnaissance platoon arrives during a resupply operation. This method strikes a balance between the reconnaissance platoons' ability to pull back for resupply and the battalion's ability to send supplies forward. Also, the logistical planners for the company and battalion must include enough supplies for the company and the reconnaissance platoon. The battalion's SOP should clearly state that the reconnaissance platoon has priority for resupply.

(2) Another method is to make the reconnaissance platoon responsible for his own supplies. Not only would the PSG coordinate for supplies, but he would also pickup, distribute, and return the LOGPAC. This limits the platoon since it must operate without the PSG for extended times. This is the easiest method of resupply for the battalion but the worst for the reconnaissance platoon.

(3) Cache or pre-positioned supply points are used during R&S missions.

(a) The criteria for selecting a cache point is important. When selecting a possible cache point, consider if the point can be located by simple instructions that are clear to someone who has never visited the site. A point may be ideal in every respect but if it has no distinct or permanent landmarks within a readily measurable distance, it should not be used. The point should have a primary and alternate route that avoids detection by anyone in the area. Also, consider the effects the weather will have on the cache point. For example, seasonal changes in the foliage may leave the point and routes exposed.

(b) Caches can be concealed above or below ground. An above-ground point is easier to use, but it is more likely to be discovered by the enemy, civilians, or animals. There is always a security risk in using a cache point; therefore, it should be inspected for enemy signs and secured before

use. The cache site may have been booby-trapped, or it may be under enemy observation.

(c) During reconnaissance, cache points can be established along the intended route of advance or near the objective by advance elements. These elements can be dismounted, airmobile, or vehicle-mounted. Special forces, allied forces, or partisans can setup these points; however, this method is rarely used.

(d) During security operations, the reconnaissance platoon can set up cache points throughout the area of operation. These points should be in each alternate or supplementary OP, in addition to other locations throughout the depth of the sector.

(e) During patrols, cache points can be setup early or during the patrol itself. To avoid carrying a heavy load during an operation, soldiers may drop items en route that are not needed at the objective, and then recover them on their return. Often, wounded personnel or transportation assets (boats, vehicles) are left in addition to supplies. Security must be maintained by using different routes, by ensuring items are camouflaged, or by leaving soldiers at the cache site to guard the supplies.

(4) Aerial supplies can be delivered by Air Force aircraft or by Army helicopters. The container delivery system (CDS) is used by the Air Force. (For more information on CDS operations, refer to FM 55-60. For more information on the use of Army helicopters, refer to FM 57-38.) The reconnaissance platoon should have soldiers that are trained in the use of Air Force aircraft and Army helicopters. The airdrop of supplies poses less risk to the aircraft; but this can result in supplies being widely dispersed or lost, which increases the time needed for recovery and resupply. Airlanding supplies is the quickest and most accurate way to deliver. However, it poses an added risk to the helicopter and can attract enemy infantry or artillery to the resupply point. Unless conducting resupply in an area under friendly control and away from direct enemy observation, the platoon should conduct resupply away from the battalion and in an area that can be defended for a short time. The reconnaissance platoon identifies potential LZs within its area of operations. These LZs can be used for routine or emergency resupply, or for evacuation of personnel and equipment. Once the reconnaissance platoon recovers its resupply, it moves to another location to consume or distribute those supplies. Security is always required during resupply operations.

8-4. MAINTENANCE

Proper maintenance keeps all materiel in serviceable condition. This includes performing PMCS, inspecting, testing, servicing, repairing, requisitioning, recovering, and evacuating. Repair and recovery are accomplished

as far forward as possible. When equipment cannot be repaired on the site, it is moved to the rear to a maintenance recovery point. Maintenance tasks are divided into unit (operator and organizational), DS and GS, and depot-level maintenance. The platoon leader, however, is mainly concerned with unit maintenance and repair of equipment in DS maintenance. Maintenance responsibilities are divided among the following positions.

a. **Platoon Leader.** The platoon leader—

(1) Ensures all platoon weapons and equipment (NVDs, mine detectors, communications equipment) are combat-ready or reported as nonmission capable to the commander.

(2) Knows the present status of equipment to include document numbers and job order numbers. He informs the battalion staff when the status of critical equipment changes.

(3) Develops and supervises a maintenance training program.

(4) Ensures equipment and soldiers have the appropriate TMs, and that soldiers are trained and supervised to complete their maintenance level.

(5) Ensures unit-level PMCS are performed on assigned equipment IAW the appropriate operator's TMs.

b. **Platoon Sergeant.** The PSG—

(1) Directs and supervises unit maintenance of platoon equipment.

(2) Helps the platoon leader comply with his responsibilities and assumes them in his absence.

(3) Coordinates with the designated maintenance element for operator-level repair and requests organizational level maintenance and DS level maintenance.

(4) Supervises and accounts for platoon personnel during maintenance periods.

(5) Ensures repair parts are used soon after receipt.

(6) Collects and consolidates the platoon's maintenance status in the field and gives the appropriate reports to maintenance personnel.

(7) Keeps the platoon leader informed of maintenance and logistics status.

c. **Squad Leader.** The squad leader—

(1) Constantly updates the PSG on maintenance and logistical status of squad equipment.

(2) Ensures DA Form 2404 is completed and updated IAW DA Pamphlet 738-750. Ensures priority of maintenance effort is to mission-essential equipment.

(3) Ensures soldiers are properly trained in PMCS procedures and PMCS are performed on equipment IAW the applicable TM.

8-5. RECOVERY AND DESTRUCTION

Recovery is required when equipment is damaged and cannot be quickly repaired on site. Damaged or inoperable equipment should be evacuated; when this is not possible, the equipment is destroyed.

a. **Evacuation.** Most damaged equipment can be carried by the platoon until it can be picked up by battalion or by company support elements.

b. **Destruction.** Instructions for destroying each item of equipment are found in the operator's TMs. The reconnaissance platoon leader requests permission from the commander before destroying any equipment. When communications fail, the platoon leader must use his judgment to decide whether equipment evacuation is possible.

8-6. MEDICAL SUPPORT

The reconnaissance platoon has a limited ability to evacuate casualties. Emphasis is on prevention since soldiers can become combat ineffective due to disease and nonbattle injuries. Evacuation of multiple casualties makes the platoon combat ineffective (two personnel are normally required to evacuate one serious casualty). By understanding and applying the principles of field hygiene, by preventing weather-related injuries, and by paying attention to environmental conditions, leaders are able to reduce casualties. (See FM 21-10 and FM 21-11.)

a. **Health and Hygiene.** Any litter casualty within a squad severely degrades that squad's ability to perform its mission. Squad leaders must maintain high standards of health and hygiene by ensuring soldiers—

- Shave daily so the protective masks will seal.
- Bathe and change clothes regularly to prevent disease.
- Treat cuts and scratches before they become infected.
- Check hands and feet regularly to avoid trench foot, blisters, frostbite, or immersion foot.
- Drink water and eat balanced meals.

b. **Casualties.** The platoon leader must plan for casualty treatment, evacuation, and positioning of established casualty collection points in the area of operations. Coordination between the platoon leader, PSG, and supporting medical platoon must be accomplished before the mission. Soldiers and leaders must be trained in first-aid procedures. Training of combat lifesavers is essential to providing enhanced first-aid treatment for casualties due to the lack of MOS-qualified medical personnel.

(1) Treatment of serious casualties entails stabilizing the soldier until evacuation is conducted. Selected squad members are trained as combat lifesavers to assist in treating and evacuating casualties. Squad members are part of the platoon's aid and litter team(s), and assist 'with first-aid treatment as a secondary mission. **Their first priority is the combat mission.** The PSG supervises this process.

(2) Casualties are treated where they fall (or under nearby cover and concealment) by an aidman (if attached) or combat lifesaver. They are then collected at the platoon casualty collection point, which is identified by the platoon leader in the OPORD. Once casualties are collected, treated, and ranked by precedence (separated into urgent, priority, and routine cases), the evacuation begins. Casualties are evacuated from the platoon casualty collection point by any means available. HMMWV ambulances or helicopters are the primary transportation assets used for evacuation. Ambulances (ground and air) should pick up casualties as far forward as possible or as the tactical situation permits. Deceased soldiers are evacuated by backhaul on supply vehicles, not in ambulances or MEDEVAC helicopters. (Figure 8-3, page 8-12 is an example of the format used when requesting air MEDEVAC.)

(3) In rough terrain or on patrols, aid and litter teams can evacuate casualties to collection points, or they can carry casualties with the platoon until transportation arrives. Casualties with minor wounds can either walk or assist in carrying the seriously wounded.

(4) The platoon SOP includes the following:

- Duties and responsibilities of key personnel in planning and executing casualty evacuation.
- Priorities of evacuation.
- Provisions for retrieving and safeguarding weapons, ammunition, and equipment.

(5) Paragraph 4 of the OPORD should provide the following:

- Location of casualty collection points (battalion, company, platoon).
- Procedures and responsibilities for MEDEVAC.
- Planned use of nonmedical transportation assets for evacuation.
- Procedures for treating and evacuating EPWs and civilian casualties.
- Communication nets for evacuation requests.

CATEGORIES OF PRECEDENCE DEFINITION	
URGENT	Used for emergency cases that need to be evacuated as soon as possible and in no case more than two hours to save life, limb, and eyesight.
PRIORITY	Used when the patient should be evacuated within four hours or his medical condition will deteriorate to such a degree that he will become an **urgent** precedence.
ROUTINE	Used when evacuation is required, but condition is not expected to deteriorate seriously within the next 24 hours.
TACTICAL IMMEDIATE	Used when the condition is not urgent or priority, but evacuation is required as soon as possible so as not to endanger the requesting unit's tactical mission.

ARMY AEROMEDICAL EVACUATION REQUEST

LINE 1: LOCATION AB 146789

LINE 2: RADIO FREQUENCY, CALL SIGN, AND SUFFIX 44.00 A4B77

LINE 3: PRECEDENCE:
URGENT ____ PRIORITY ✓ ROUTINE ____ TAC IMMED ____

LINE 4: SPECIAL EQUIPMENT NONE
(HOIST, JUNGLE PENETRATOR)

LINE 5: NUMBER OF PATIENTS BY TYPE 1
LITTER ____ AMBULATORY ____

LINE 6: SECURITY OF PICKUP SITE SECURE

LINE 7: METHOD OF MARKING PICKUP SITE RED SMOKE

LINE 8: PATIENT'S NATIONALITY AND STATUS U.S.

LINE 9: NBC CONTAMINATION O.K.

Figure 8-3. Example of an aeromedical evacuation request.

8-7. PRISONERS OF WAR

Prisoners of war are good sources of combat information. EPWs are processed and quickly evacuated to the rear. When enemy soldiers surrender or are captured, the squad is responsible for taking them into custody and control until evacuation is completed.

a. **Enemy.** The platoon leader directs squads to take EPWs to an intermediate collection point. The EPWs are then turned over to other personnel (company or 1SG with guards) who evacuate them to the battalion collection point. If no one is available, squads are directed to evacuate EPWs to a collection point. This method should be avoided since

it detracts from the platoon's ability to accomplish its main purpose—reconnaissance. If an EPW is wounded and cannot be evacuated through medical channels, the platoon leader notifies battalion.

(1) A surrendering enemy soldier should never be approached. He could have a weapon hidden nearby, or he could be booby-trapped. The enemy soldier is gestured forward until there is no doubt that he is surrendering, rather than trying to lure friendly soldiers into an ambush. A thermal sight maybe used to locate possible ambushes. When searching an EPW, one soldier covers the EPW with a weapon, while another soldier searches him. **Soldier must not wear a weapon when searching the EPW.** The searching soldier must not get between the EPW and the soldier covering him.

(2) The rights of EPWs have been established by international law, which the US has agreed to obey. Once an enemy soldier shows he wants to surrender, he should be treated humanely. It is a court-martial offense to physically or mentally harm, mistreat, or needlessly expose an EPW to fire.

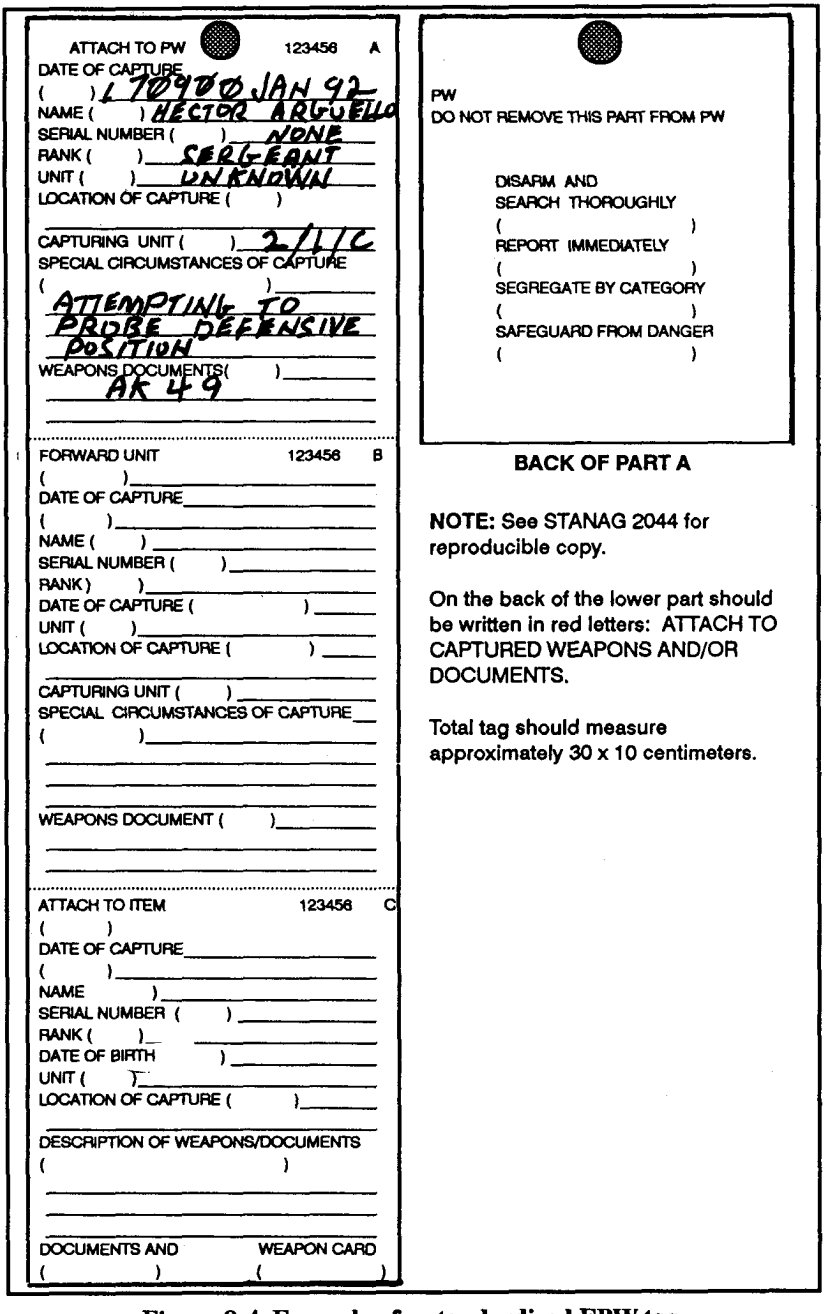
(3) The senior officer or NCO on the scene is legally responsible for the care of EPWs, ensuring EPWs are processed using the five "S" principles— **search, segregate, silence, speed,** and **safeguard.** If the reconnaissance platoon cannot evacuate an EPW within a short time, food, water, and medical treatment must be provided. The EPW is not offered nonessential comfort items such as coffee or cigarettes. This could affect the interrogation procedures.

(4) Before evacuating the EPW, a tag (Figure 8-4, page 8-14) is attached to him. Tags maybe issued or made from materials available on the battlefield. (See STANAG 2044.)

(5) Captured enemy documents and equipment are excellent sources of information. Documents include maps, orders, records, or photographs. If captured items are not properly handled, the information could be lost or delayed until it is useless. Documents and equipment are evacuated to the battalion collection point as rapidly as possible. Each item is tagged (Figure 8-5, page 8-15). If the item was found on an EPW, his name is included on the tag, and the item is given to the guard. The guard delivers the item and the EPW to the battalion collection point.

b. **Civilians.** Civilians who are captured as the result of curfew violations or suspicious actions are detained and treated the same as EPWs. The platoon evacuates them to the battalion collection point, using the five "S" principles.

c. **Enemy Prisoners of War.** Evacuation of EPWs can be a time-consuming process. The platoon leader notifies battalion and requests guidance when mission accomplishment is hampered due to this process.



BACK OF PART A

NOTE: See STANAG 2044 for reproducible copy.

On the back of the lower part should be written in red letters: ATTACH TO CAPTURED WEAPONS AND/OR DOCUMENTS.

Total tag should measure approximately 30 x 10 centimeters.

Figure 8-4. Example of a standardized EPW tag.

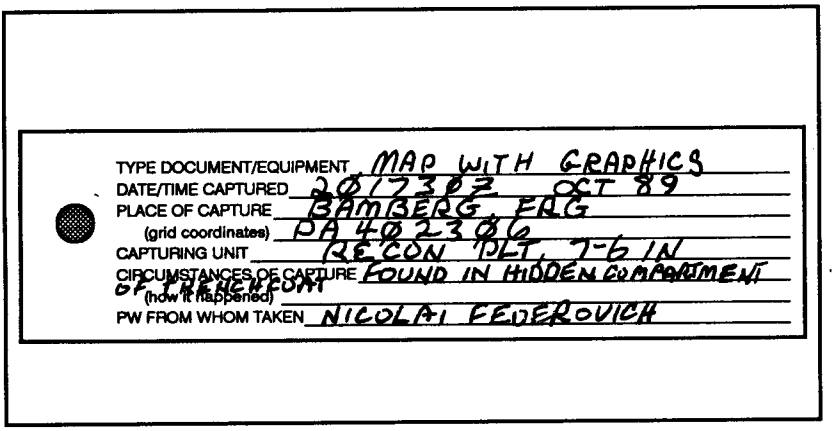


Figure 8-5. Example of a document and equipment tag.

8-8. SOLDIER'S LOAD

The soldier's load is a crucial concern of the reconnaissance platoon leader. How much is carried, how far, and in what configuration are important mission considerations. The platoon leader should require soldiers to carry only mission-essential equipment. The reconnaissance platoon cannot be overloaded with equipment that covers all possible contingencies. The battalion supply system must be able to deliver contingency supplies. (For more information on load planning, calculating, and management, see FM 21-18.) (Techniques used to assist leaders and soldiers in organizing tactical loads to ensure safety and combat effective are discussed in Appendix D.)

*CHAPTER 9

URBAN OPERATIONS

"The rapid growth of the number and size of urban centers, especially in regions of political instability, increases the likelihood that US forces will be called upon to conduct MOUT."

Defense Science Board, October 1996

By the year 2010, seventy-five percent of the world's population could live in urban areas. Thus, urban areas comprise the most likely future battlefield, so US forces will most likely fight in urban areas.

This chapter discusses general planning considerations for the reconnaissance platoon and squad. It also discusses tactics, techniques, and procedures for reconnaissance operations in urban areas.

Urban operations (UO) are not new to the US Army. Throughout history, the Infantry soldier has fought many enemies on urban terrain. What is new? Urban areas and populations grew so much in the late 20th Century that they figure more importantly in military operations now than ever before. Worldwide shifts from rural to urban societies and the requirement to switch back and forth between combat operations versus stability or support operations have affected US Army doctrine.

Section I. CONSIDERATIONS

The battalion headquarters reconnaissance platoon will conduct assigned missions as part of a battalion TF. This section outlines considerations to help the reconnaissance platoon reconnoiter and provide security for the battalion in urban operations. It describes characteristics unique to the urban environment and to a threat operating in an urban environment. Finally, it discusses factors the platoon leader must consider while preparing for and planning the operation.

9-1. URBAN IPB

The reconnaissance platoon reconnoiters in urban environments to obtain critical information for the battalion TF. The platoon must clearly understand its IR and how they relate to higher headquarters' intent. The platoon might have to conduct a terrain-oriented reconnaissance, which would focus on the multidimensional aspect of the urban area. The platoon might instead orient on the enemy. In that case, the platoon would isolate an urban area in a high-threat environment. Either way, it should give the TF commander enough information to understand the urban environment that he faces.

a. Entering or operating in an urban environment poses a significant threat to reconnaissance soldiers unless the platoon prepares and plans properly. The platoon thoroughly analyzes the urban environment and the threat before starting a reconnaissance operation. During the preparation phase, the reconnaissance platoon determines its reconnaissance objectives and conducts an urban IPB (see FM 34-130). It

collects and analyzes existing map and aerial images (IMINT) as well as all HUMINT. Then it develops the situation.

b. An urban IPB is crucial to planning an urban operation. Reconnaissance units must identify all relevant forces, the strengths and critical vulnerabilities of those forces, and the critical, precise locations in the urban area that could, if controlled, provide a tactical advantage. The IPB effort must address the impact of noncombatants, whose presence in the urban area could be substantial and dynamic. Determining the ethnic and religious composition of the population and, if possible, its intent (for example, to flee or to remain) could prove crucial. In urban combat operations, the reconnaissance platoon must focus on achieving informational and situational understanding for the TF. Some of the tasks it might perform include—

- Determining enemy locations and current activity.
- Determining trafficability of routes.
- Identifying adjacent and alternate routes.
- Identifying subterranean openings and their systems.
- Establishing and maintaining communications.

9-2. CHARACTERISTICS OF THE URBAN ENVIRONMENT

Each operational environment has distinct characteristics, and urban areas are the most complex. Two main factors complicate urban operations: The first is the fabricated terrain and its supporting infrastructure; the second is the density of noncombatants close to combat forces. The latter is more important due to the human dimension, but that same dimension also makes it more confusing. HUMINT reveals what the local populace thinks about the friendly and threat forces. This information helps frame the TF reconnaissance effort.

a. **Categories of Urban Areas**. An urban area concentrates structures, facilities, and people, which together form the economic and cultural focus of the area. Each of the five categories of urban areas affects operations. With its associated urban sprawl, a city, metropolis, or megalopolis can cover hundreds of square kilometers. In areas this large, brigades and below normally operate as part of a larger force. However, extensive combat in these large urban areas involves units of division level and above.

(1) ***Village***. A village has 3,000 inhabitants or less. A brigade AO (area of operations) can include many villages. As a normal part of brigade operations, the brigade units bypass, move through, defend from, and attack objectives within villages.

(2) ***Town***. A town has 3,000 to 100,000 inhabitants, but is not part of a major urban complex. Operations in such areas normally involve brigades or divisions. As part of division operations, brigades bypass, move through, defend in, or attack enemy forces within towns.

(3) ***City***. A city has 100,000 to 1 million inhabitants.

(4) ***Metropolis***. A metropolis has between 1 and 10 million inhabitants.

(5) ***Megalopolis***. A megalopolis has over 10 million inhabitants.

b. **Urban Zones**. The S2 will subdivide the AO and the area of interest (AI) into appropriate types of "zones" (see FM 34-130).

(1) ***City Core***. The city core is its downtown or central business district—the heart of the city. This area is relatively small and compact. It contains a large percentage of the city's shops, offices, and public institutions as well as its highest density of multistory

buildings and subterranean areas. Today, typical city cores consist of buildings that vary greatly in height. Also, most cities have developed their core zones more than their core periphery zones. Thus, city cores usually differ greatly from their peripheries. The two most common construction patterns used in city core zones are:

(a) *Dense Random Construction*. In this typical, old, inner-city pattern, many narrow and winding streets radiate at random from a central area. Buildings stand close together and are often close to the road.

(b) *Close Orderly Block Construction*. Wider streets form mostly rectangular patterns. Buildings often form a continuous front along the blocks. Inner-block courtyards are common.

(2) ***Core Periphery***. The core periphery is located at the edges of the city core. Its streets vary from 12 to 20 meters wide and have continuous fronts of brick or concrete buildings. In small towns, the buildings range between two and three stories high. In large cities, they range from five to ten stories. The two most common construction patterns used in core periphery zones are the same as those described for the city core: dense random construction and close orderly block construction.

(3) ***Dispersed Residential Area***. In Europe, this type area normally occurs next to *close-orderly block areas*. It has row houses or single-family dwellings with yards, gardens, trees, and fences. Streets normally form rectangular or curving patterns.

(4) ***High-Rise Area***. Typical of modern construction in larger cities and towns, this type area consists of multistoried apartments, separated open areas, and single-story buildings. Wide streets form rectangular patterns. These areas are often located right next to industrial or transportation areas. Sometimes they intersperse with close-orderly block areas.

(5) ***Industrial-Transportation Area***. These areas generally occur along major rail and highway routes in urban complexes. Some older complexes exist within dense randomly constructed or close-orderly block areas. New construction normally consists of low, flat-roofed factory and warehouse buildings. Throughout the Orient, adjacent high-rise areas provide worker housing. The platoon must identify all transportation facilities in these areas, because all of them, especially rail yards, pose significant obstacles to military movement.

(6) ***Permanent or Fixed Fortifications***. These include any of several different types of fortifications, including such isolated forts as the Hue Citadel (Viet Nam) and the German fortifications around Metz. They can also include fortified lines such as the Siegfried and Maginot Lines. Though most are in Western Europe, many are also in the Balkans, the Middle East, Asia, Africa, and South America. Most such fortifications in the United States were built for coastal defense. Permanent fortifications are made of earth, wood, rock, brick, concrete, steel-reinforced concrete, or any combination of these. Some of the latest variants are built underground using heavy tank or warship armor; their armament includes major caliber and other weapons; they have internal communications, service facilities, and NBC overpressure systems.

(7) ***Shantytowns***. Shantytowns seldom follow any of the previously described urban patterns. They occur in many different zones in urban areas. Many underdeveloped countries have small towns and villages, but few large cities. Shantytown structures are made of materials ranging from cardboard to concrete block. People in arid regions build

with adobe, which consists of earthenware bricks, sometimes reinforced with straw. Even larger cities can have shantytowns around their perimeters.

(a) These structurally unsound buildings have no common floor pattern, and they seldom have more than one room. Firing a round into one of these substandard structures could result in overpenetration. That is, the round could penetrate the walls of more than one building. This could endanger friendly forces as well as noncombatants. When firing into these types of areas, using reduced or no explosive charges prevents structural damage or complete destruction. Fires are also more likely to develop and spread in shantytowns.

(b) Depending upon the type of operation, temporary structures such as those found in shantytowns can either increase or decrease mobility, compared to other sections of an urban area. A unit with armored vehicles can easily knock down and traverse simple structures without affecting mobility at all. *However*, destroying them can cause unacceptable civilian casualties. In this case, the shantytown restricts mobility, because few, if any, vehicles can travel its narrow paths. Regardless, commanders must carefully consider the effects of their operations in this area, to include vehicles and weapons. The weak structures afford little protection, which increases the risk of fratricide, civilian casualties, and large, rapidly spreading fires.

9-3. URBAN BATTLESPACE

Urban areas mainly consist of man-made features, such as buildings, which provide cover and concealment, limit fields of observation and fire, and block movement of forces--especially mechanized or armored forces. Thick-walled buildings provide ready-made, fortified positions. Thin-walled buildings could offer important fields of observation and fire. Another important aspect of the urban battle space is that it complicates, confuses, and degrades the commander's ability to identify and control his forces. All of these factors affect the urban battlespace.

a. Commanders and leaders can enhance situational understanding by maintaining a clear understanding of their urban battlespace (Figure 9-1), which includes:

(1) ***Urban Airspace***. Airspace offers a rapid avenue of approach into an urban area. Obstacles such as rubble, vehicles, or constructed barriers do not affect aviation assets. However, pilots must avoid power lines, towers, sign poles, and billboards. To ensure improved flight planning, reconnaissance elements can locate, identify, and report these obstacles.

(2) ***Supersurface***. The term "supersurface" refers only to the top, roof, or apex of a structure. These areas can provide cover and concealment, limit or enhance observation and fields of fire, and, depending on the situation, can enhance, restrict, canalize, or block movement. Historically, most movement within the urban environment has been on the surface or between supersurfaces (from rooftop to rooftop). Supersurface areas can provide excellent concealed positions for snipers, automatic weapons, light and medium antitank weapons, and man-portable air defense systems. In many cases, they enable top-down attacks against the weakest points of armored vehicles (their decks) and unsuspecting aircraft (their underbellies).

(3) ***Intrasurface***. The term "intrasurface" refers to the floors within the structural framework, that is, all areas between ground level (surface) and the structure's permanent roof or apex (supersurface). It includes all interior surfaces. Historically, the most

numerous and most intense combat engagements occur in this intrasurface area, which is a diverse and complex combat environment. The intrasurface of a building greatly limits reconnaissance and surveillance but, at the same time, enhances cover and concealment. Some intrasurface areas have mobility corridors within and between structures at upper levels. These corridors can conceal snipers, automatic weapons, light and medium antitank weapons, and man-portable, air-defense systems. In many cases, intrasurfaces allow top-down attacks against the weakest points of armored vehicles (their decks) and unsuspecting aircraft (their underbellies).

(4) ***Surface***. This includes all ground-, street-, and water-level surfaces. Streets and open areas provide a rapid approach for ground movement in urban terrain. Buildings canalize units that try to move along the streets. This leaves the unit little room to move. Conversely, the enemy can observe and engage forces that move across large open areas such as parks, athletic fields, and parking areas.

(5) ***Subsurface***. This includes all underwater and subterranean areas such as subways, sewers, public utility systems, and cellars. Dismounted elements can move through subsurface areas. Both attacker and defender can use subterranean routes to outflank or turn the opposition, or to infiltrate, ambush, counterattack, and sustain operations. Some urban subsurface systems are hard to find, but can still play an important role in the outcome of operations.

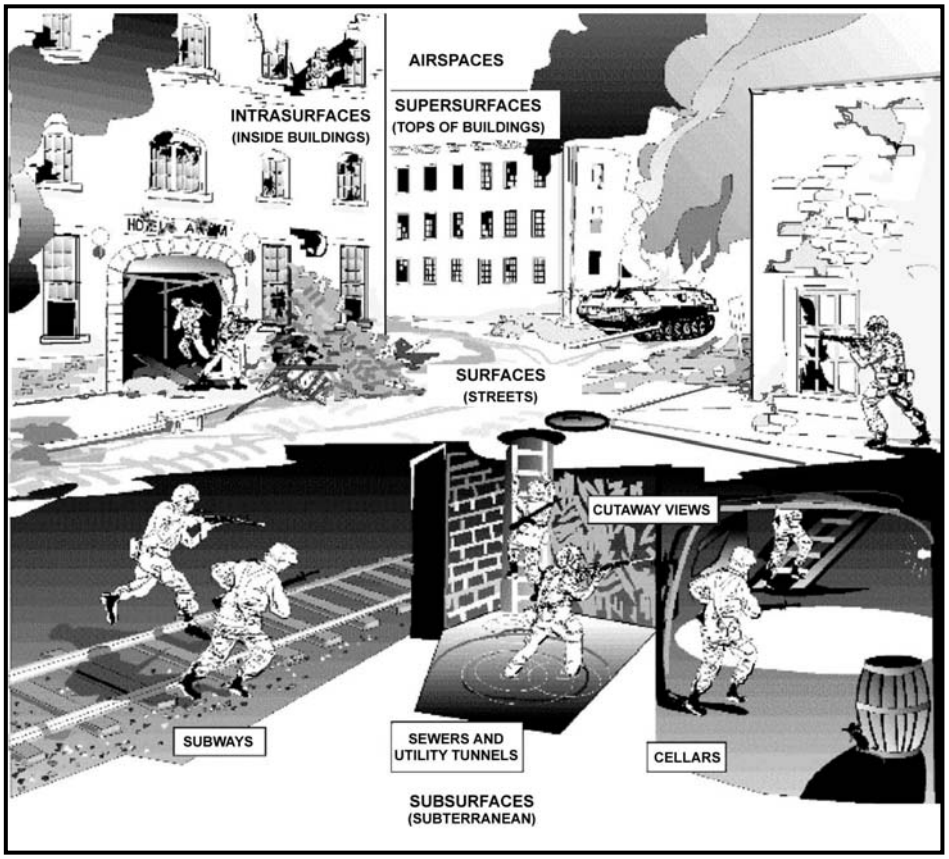


Figure 9-1. Urban battle space.

b. Reconnaissance platoon and squad leaders must be able to identify building types, construction materials, and building designs, and they must understand the effectiveness and limitations of weapons against each of these. They must also be able to communicate this information to the battalion so that the battalion staff can understand and visualize the three-dimensional battle space. As friendly and enemy forces and civilians move, and as weather and environmental conditions change, leaders in the reconnaissance platoon and squad keep up with the changes to the battle space. Timely reporting of any changes in the area of operations will allow for the movement of assault, support, and breaching elements in the offense; the repositioning of platoons and squads in the defense; and synchronization of CS and CSS assets. Other factors that affect the urban battlespace include—

- Casualty evacuation procedures.
  Resupply procedures.
  Procedures for handling of enemy prisoners of war.
- Procedures for handling of noncombatants.
- Rules of Engagement.
- Weather conditions.
- Battlefield obscuration.
- Communications.
- Movement of vehicles.

9-4. CHARACTERISTICS OF URBAN OPERATIONS

Many characteristics distinguish UO from other environments.

a. **Technology**. US technological advantages contribute little to urban operations.

(1) ***Air Power***. Air power offers little help to Infantry units fighting from buildings, because an adept enemy "hugs" the opposition to deny them use of overwhelming firepower.

(2) ***Training and Equipment***. The training and equipment used against a mobile, armored threat might work poorly in urban operations.

b. **Size of the Fight**. Urban combat is primarily a small-unit Infantry fight. Accomplishing the mission requires lots of Infantry. Regardless, combined arms must support the Infantry. For this reason, the reconnaissance platoon performs its traditional mission as the "eyes and ears" of the battalion commander. Well in advance of the operation, the platoon must locate and identify the enemy's disposition, strength, and weakness. This information helps the commander develop the battalion's operational concept.

c. **Decentralization**. Infantry urban combat is primarily a squad and platoon fight characterized by individual, moment-to-moment decisions. That is why ROE training is important. Commanders and leaders help by anticipating what the soldiers will need to accomplish the mission. Their goals include speed, precision, and keeping to a minimum the number of soldiers in close combat with the enemy.

d. **Characteristics of Urban Threat**. Snipers, grenade launchers, booby traps, and rocket-propelled grenades (RPGs) constitute the greatest threats in urban combat. Soldiers can expect to find booby traps on doorways, windows, and entrances to underground passageways.

e. **Changing Conditions**. In UO, reconnaissance platoons and squads execute missions in changing conditions. For example, switching from stability and support operations to combat operations changes operational conditions from high-intensity to precision, or vice-versa. Political and threat situations determine when this change must occur. The reconnaissance platoon receives ROE changes from its parent battalion headquarters. These changes normally require the platoon to modify the way it fights in urban areas. Squads and platoons select different TTP based on the conditions they face. The ROE ultimately determine these conditions for the reconnaissance platoon and squad.

f. **Limited Observation**. The density of urban terrain limits the fields of observation substantially. Therefore, the distances at which the reconnaissance teams acquire and identify enemy positions and personnel drop greatly. To achieve a broad range of visibility across the battalion sector during a screen, the reconnaissance squads occupy several OPs at once. To reconnoiter an area, a zone, or a route effectively in UO, R&S teams must adapt their practices.

g. **Small-Unit Battles**. The closeness of urban operations increases the likelihood that the enemy will detect the reconnaissance team. Because some urban areas offer poor concealment and cover, the enemy is most likely to detect soldiers moving through urban areas. He is far less likely to detect soldiers operating from static positions inside buildings. If compromised in urban terrain, reconnaissance teams and squads can become isolated or at least feel isolated. When this happens, a break-contact drill becomes a series of small-unit battles. Soldiers and squad or team leaders must have the initiative, skill, and courage to accomplish their missions while isolated from their parent units. Individual soldiers train physically and psychologically for this type of operation.

h. **Communications**. Urban operations require centralized planning and decentralized execution. Therefore, effective vertical and horizontal communications are critical. Leaders must trust their subordinates' initiative and skill, which can only come from training. The state of a unit's training and cohesion are vital, decisive factors in the execution of operations in urban areas.

(1) ***Radio***. Structures and a high concentration of electrical power lines normally degrade radio communications in urban areas. The construction materials in many buildings prevent radio waves from passing through them. Units often have too few radios to communicate with subordinate elements as they enter buildings and move through urban canyons and defiles.

(2) ***Visual Signals***. The platoon can use visual signals, which are often ineffective due to the screening effects of buildings, walls, and other vertical structures. Leaders must plan, widely disseminate, and ensure understanding by all assigned, attached, or OPCON units.

(3) ***Sound Signals***. Increased noise makes the effective use of sound signals difficult. Also, verbal signals may communicate the location and intent of the unit to the enemy.

(4) ***Messengers***. Messengers are slow and susceptible to enemy fire when moving between buildings or crossing streets.

(5) ***Wire***. Wire is the best way to control the defense of an urban area. Given sufficient assets, it offers an alternative means of communications during offensive operations. Its weakness is its vulnerability to damage from falling or flying debris, exploding munitions, and moving vehicles.

i. **High Expenditure of Ammunition**. Reconnaissance platoons conducting UO should increase the individual combat load and the types of ammunition they carry. Due to the increased likelihood of compromise and the chance of isolation, reconnaissance elements might need more firepower to break contact with a pursuing enemy element. Short ranges to and briefly exposed targets, limited visibility, constant engagements, and the requirement to suppress enemy fire indicate the need for each squad to carry an AT4, a LAW, extra rifle ammunition, 40-mm grenades, hand grenades, and explosives. They will need all of these, and plenty of them.

DANGER

BEFORE EMPLOYING EXPLOSIVES OR FRAGMENTATION-TYPE MUNITIONS, CONSIDER THE INTEGRITY OF THE STRUCTURE. REMEMBER THAT SHANTIES ARE POORLY CONSTRUCTED, AND THAT COLLATERAL DAMAGE COULD ENDANGER THE LIVES OF SOLDIERS OR NONCOMBATANTS.

j. **Increased Casualties**. Before deploying into urban areas, leaders make sure the soldiers know basic first aid and preventive medicine. Casualties in urban operations are higher than in other types of terrain due to the following:

(1) ***Accidents***. More casualties result from shattered glass, falling debris, rubble, ricochets, urban fires, and falls from heights than from actual combat engagements.

(2) ***Situational Awareness***. Difficulty in maintaining situational awareness also increases casualties, because leaders find preventing fratricide more difficult if they do not know the locations of other friendly personnel.

(3) ***Psychological Illnesses***. Stress naturally contributes to the number of accidents, fratricide incidents, and illnesses. Stress can also trigger other, latent psychological problems.

(4) ***Physical Illnesses or Environmental Hazards***. Nonbattle injuries result from illnesses, environmental hazards, unsanitary conditions, contaminated water, toxic industrial materials, and so forth.

k. **Three-Dimensional Terrain**. Friendly and threat forces operate in a three-dimensional battle space. Engagements can occur above, on, or below the surface, or inside or outside buildings. Another complicating factor is that both friendly and enemy forces can control different floors or portions of multistory buildings.

l. **Reliance on Human Intelligence**. Until they have a better way to gather information, leaders need HUMINT. Reconnaissance efforts of battalion and brigade assets can help. So can the shaping operations executed by division or joint TF assets. Companies and below normally rely on information received from human sources such as from the reconnaissance platoon or from their own R&S efforts. The battalion staff gives the reconnaissance platoon a list of PIR. These help the commander make decisions while planning operations. Examples of the PIR are:

- Locations of enemy command posts.
- When defending, locations of the most likely enemy avenues of approach.
- Streets and alleys that restrict movement of armored and wheeled vehicles.
- Locations of likely enemy strong points and engagement areas.
- Enemy's air defense capability against friendly aircraft.

m. **Need to Isolate Critical Points**. During offensive operations, companies and platoons assault buildings; squads clear the buildings and the rooms. The unit seldom has enough assets to isolate large parts of the urban area. Therefore, it couples an aggressive and effective reconnaissance plan with skillful use of direct and indirect fires, obscurants, and maneuver to isolate key buildings or parts of buildings, to secure footholds, and to clear.

n. **Snipers**. Historically, snipers have been very useful in urban operations. They provide long- and short-range precision fires and can help the company and platoon isolate the enemy. They provide precision fires during stability operations (Section III). Used properly, the snipers' observation capability supports the battalion reconnaissance mission.

9-5. DETAILED DESCRIPTION OF THREAT TACTICS

The increasing availability of sophisticated technology has created unorthodox tactics for exploiting potential opponents. These tactics seek to counter the technological and numerical advantages of US joint systems and forces. They also seek to exploit the constraints placed on US forces due to cultural bias, media presence, ROE, and distance from the crisis location. To offset their inherent weaknesses, enemy forces seek an advantage in urban terrain. They remain dispersed and decentralized, and they adapt their tactics to counter a US response. They range from units equipped with small arms, mortars, machine guns, antiarmor weapons, and mines up to very skilled mechanized and armored forces with the latest equipment. While the active threats will vary widely, many techniques will be common to all. Figure 9-2 shows some tactics available to potential threats that oppose US forces in urban areas.

- Use the population to advantage.
- Win the information war.
- Manipulate key facilities.
- Use all dimensions.
- Employ urban-oriented weapons.
- Engage the entire force.
- Focus attacks on service support and unprotected soldiers.

Figure 9-2. Urban threat tactics.

a. **Use the Population to Advantage**. When developing the situation, the platoon leader should consider the urban populace to be a key factor. The force it supports will have a distinct advantage. Future urban battlefields can expect to have large segments of the populace still in place, as it was in Budapest, Hungary and Grozny, Chechnya. Infantry units conducting urban stability and support operations will certainly expect to conduct missions in and among the residents of the area.

(1) Threat forces can use the local population to support their deception plan. Guerrillas, terrorists, paramilitary, and even conventional soldiers might take on the appearance of the local population, even to the extent of growing facial hair, if needed.

(2) Threat forces will try to take advantage of the US's sense of moral responsibility by trying to burden the Army's logistical and force-protection resources with responsibility for the civil population. To do this, they could herd refugees into friendly-controlled sectors, steal from US-paid local nationals, and hide themselves among civilians during offensive operations.

(3) The civil population can also provide intelligence to threat forces. Local hires serving among US soldiers, civilians with access to base camp perimeters, and refugees moving through friendly-controlled sectors could provide information about friendly dispositions, readiness, and intent. In addition, threat special-purpose forces and hostile intelligence-service assets try to move among well-placed civilian groups.

b. **Win the Information War**. Threat forces try just as hard to win the information war as they do to win politically and militarily.

(1) Portable video cameras, Internet, commercial radios, and cellular telephones are all venues where threat forces can tell their story. They can stage and broadcast fictitious American "atrocities" and send e-mail to groups sympathetic to friendly forces. In either case, the purpose is to undermine the resolve—and therefore also the actual support—of supporting friendly forces. Internet web sites provide easy worldwide dissemination of threat propaganda and misinformation. Threat hackers could try to gain access to US sites in order to manipulate information to their own advantage.

(2) The threat can use the news media skillfully. For example, insurgent campaigns need not succeed tactically or militarily. To gain domestic and world support, they need only make the opposition's campaign seem unpalatable. The media coverage of the Tet Offensive of 1968 affected the will of both the American people and their political leadership. Although the battle for Hue was a tactical victory for the US, the North Vietnamese clearly achieved strategic success by searing the American consciousness with the high costs of urban warfare.

c. **Manipulate Key Facilities**. Threat forces can identify and quickly seize control of critical components of the urban area. This helps them shape the battlespace to their own ends.

(1) ***Telephones***. Telephone exchanges provide simple and reliable communications that anyone can secure easily using off-the-shelf technologies.

(2) ***Sewage and Flood Facilities***. The threat can use sewage treatment plants and flood-control machinery to implement weapons of mass destruction (WMD) or to render sections of the urban area uninhabitable.

(3) ***Broadcast Media***. Media stations significantly improve the information operations position of the controlling force.

(4) ***Power Plants***. Power generation and transmission sites provide means to control significant aspects of civilian society over a large area.

d. **Use the Three Dimensions of Urban Terrain**. The threat will operate throughout the urban environment.

(1) Upper floors and roofs make excellent observation points and battle positions whose height might exceed the height to which many weapons can elevate. Engagements from upper floors strike armored vehicles in some of their most vulnerable locations—their top deck(s), hatches, and, in some cases, in their gunner's stations.

(2) Basements provide firing points below the level that many weapons can depress. They too allow fire at armored vehicles' weak belly armor.

(3) Sewers and subways provide covered and concealed access throughout the area of operations.

e. **Employ Urban-Oriented Weapons**. Whether designed or adapted for urban use, many weapons are quite useful in an urban environment. They reflect the varied nature of the urban environment. Small, man-portable weapons and improvised munitions dominate the urban environment. Figure 9-3 shows some of the weapons the threat favors in urban operations.

- Weapons with no minimum depression or maximum elevation.
- Grenade launchers (automatic and rifle mounted).
- RPGs and other shoulder-fired ATGMs.
- Weapons with little or no backblast (gas-metered, soft launch, and so on).
- Mortars.
- Sniper rifles.
- Machine guns.
- Grenades.
- Flame and incendiary weapons.
- Riot-control and tranquilizer gasses.
- Mines and booby traps.

Figure 9-3. Favored weapons for urban operations.

f. **Engage the Entire Enemy Force**. To avoid the effects of high-firepower standoff weapon systems, threat forces might "hug" units operating in an urban area. They might also try to keep all or a large part of the unit engaged in continuous operations to increase the susceptibility to stress-induced illnesses. UO, by their nature, produce an inordinate amount of combat stress casualties, and continuous operations exacerbate this problem. The threat can keep a large reserve to reduce the effect of combat stress on its own forces.

g. **Focus Attacks on Service Support and Unprotected Soldiers**. Threat forces might prey on soldiers poorly trained in basic Infantry skills. Ambushes might focus on such soldiers during resupply or movement in poorly guarded convoys. The threat uses the separation of small groups and the navigational challenges that characterize urban operations to inflict maximum casualties. They will do this even when they stand to gain no other direct military benefit from the action. Therefore, during certain types of UO, Infantry units could find themselves providing security for logistical units.

9-6. PROJECTED THREAT CAPABILITIES

Some Third World nations modernize their armed forces by acquiring new technologies. Future conflicts could involve Third World forces armed with state-of-the-art weapon systems. Projected future threat force capabilities include—

a. New munitions such as fuel air explosives (FAE), enhanced blast, thermobaric, intense light, and other improved ballistic technologies.
b. Systems with interchangeable warheads, some designed for urban combat.
c. Precision-guided munitions.
d. Robotics.
e. Day or night target-acquisition systems.
f. Elevated gun systems.
g. Improved engineering abilities to breach or emplace obstacles.
h. Soft-launch handheld antitank and flame weapons.
i. Nonlethal incapacitating chemical or biological agents used by conventional forces.
j. Lethal chemical or biological agents used as an asymmetric threat.
k. Improved self-protection (body armor).
l. Improved communications.

9-7. CIVIL CONSIDERATIONS

Along with a detailed picture of the urban terrain, the reconnaissance platoon must provide the commander with an in-depth description of the civilian population to include composition, activities, and attitudes. This information helps the staff develop and analyze plans.

a. Information requirements for the platoon with a multidimensional focus include—
   - Political affiliations and grievances.
   - Ethnicity.
   - Factions.
   - Cultural distinctions.
   - Living conditions.
   - Religious beliefs.
   - Attitudes towards US forces (friendly, neutral, and hostile).

b. The platoon leader analyzes the information collected and assesses various ways to control the impact of civilians on the mission. He can recommend that higher headquarters screen or evacuate civilians, prohibit unauthorized movement, divert or control refugee movements, or any combination of these. Higher headquarters relies on his information and analysis to help them determine COAs.

Section II. URBAN RECONNAISSANCE TACTICS, TECHNIQUES, AND PROCEDURES

The primary role of the reconnaissance platoon is to gather information about the enemy and the terrain, and, to a lesser degree, to provide security. The reconnaissance platoon leader and his subordinates know how the multidimensional battlespace will affect their mission. Conducting a reconnaissance mission on urban terrain is, for the most part, the

same as on any other terrain. However, reconnaissance elements must adjust to differences in their standing operating procedures (SOP) and TTP, based on the unique characteristics of the urban terrain.

9-8. COLLECT AND ANALYZE EXISTING INTELLIGENCE

During the planning phase, the reconnaissance platoon leader assesses the assigned reconnaissance objectives and conducts an urban IPB. To begin developing the situation, the platoon collects and analyzes existing intelligence, including map and aerial images (IMINT) and HUMINT. The platoon will begin mapping of the urban area as part of the planning phase.

a. **Urban Maps**. Before entering an urban environment, reconnaissance units develop urban operations sketches. These reconnaissance products, usually created as overlays, serve several purposes. They provide an important supplement to existing maps, which seldom show the detail needed for effective situational awareness. The sketches allow the platoon leader to track his elements with greater accuracy and to give precise location updates to higher headquarters. When he finishes the operations sketch, he hands it over to higher headquarters for use by leaders and soldiers at all levels of the operation. In developing his sketches and overlays, he should try to gain access to the city planner's or civil engineer's maps. They provide accurate, detailed information about the urban area. Then, the platoon conducts an initial map reconnaissance and an aerial photographic reconnaissance. They pinpoint key terrain and other important locations in the AO. Figure 9-4 shows an example of this photographic reconnaissance, which focuses on three specific types of areas:

(1) ***Safe Havens***. Areas that could serve as safe haven for threat forces. Examples include hospitals, police stations, embassies, and any other nominally friendly facilities that could harbor threat elements.

(2) ***Hazardous Areas***. Hazardous areas such as construction sites, dangerous intersections, bridges, and areas of criminal activity.

(3) ***Key or Critical Areas***. Key or critical areas, including but not limited to bridges, parks, industrial complexes, and airports.

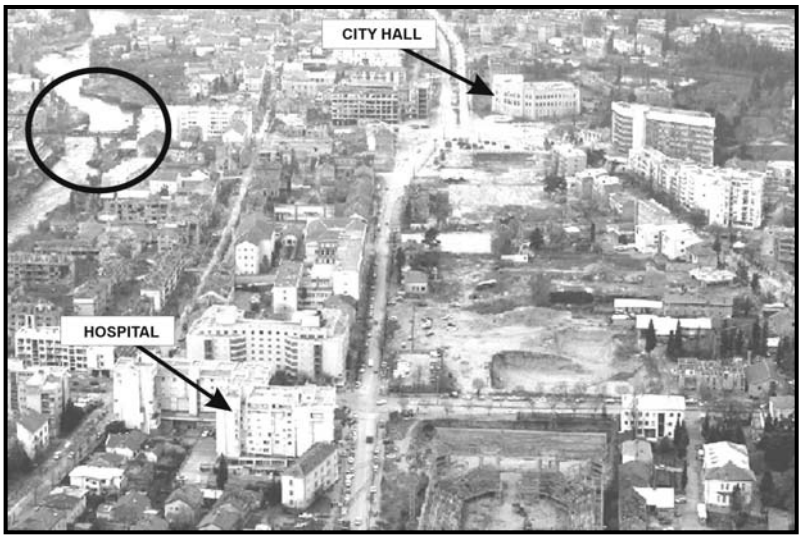


Figure 9-4. Initial photographic reconnaissance in urban operations.

b. **Refinement of Data**. After the platoon completes its basic reconnaissance, they use any available maps and photographs to refine the information. They translate what they know into a form they can transfer to the urban operations sketch. In the process, they incorporate a reference system to identify buildings and streets. Simple naming and numbering conventions, such as assigning odd numbers to buildings on the left side of the street and even numbers to those on the right, simplify orientation and navigation. The platoon leader should avoid using street names, because they can change and because the threat could move street signs to confuse friendly soldiers.

(1) The scouts add graphic control measures and identify sites of tactical and operations significance (Figure 9-5). The platoon leader uses the accumulated information to develop a detailed urban operations sketch (Figure 9-6). He must ensure that the platoon's sketches are consistent with those used at higher levels. In addition, he can develop more than one type of operational overlay, depending on the information collected. Example overlays (Figures 9-7 through 9-9, pages 9-16 through 9-18) show terrain conditions, likely threat positions, and subterranean infrastructure.

(2) The platoon leader distributes the sketches and overlays both within the unit and to higher and adjacent elements. Because individual reconnaissance squads might have to execute operations on their own, the platoon leader must ensure that every soldier understands the sketches, the overlays, and the reference system used. As the platoon conducts operations in the urban area, it confirms the accuracy of the sketches and overlays, adding and adjusting details as needed.

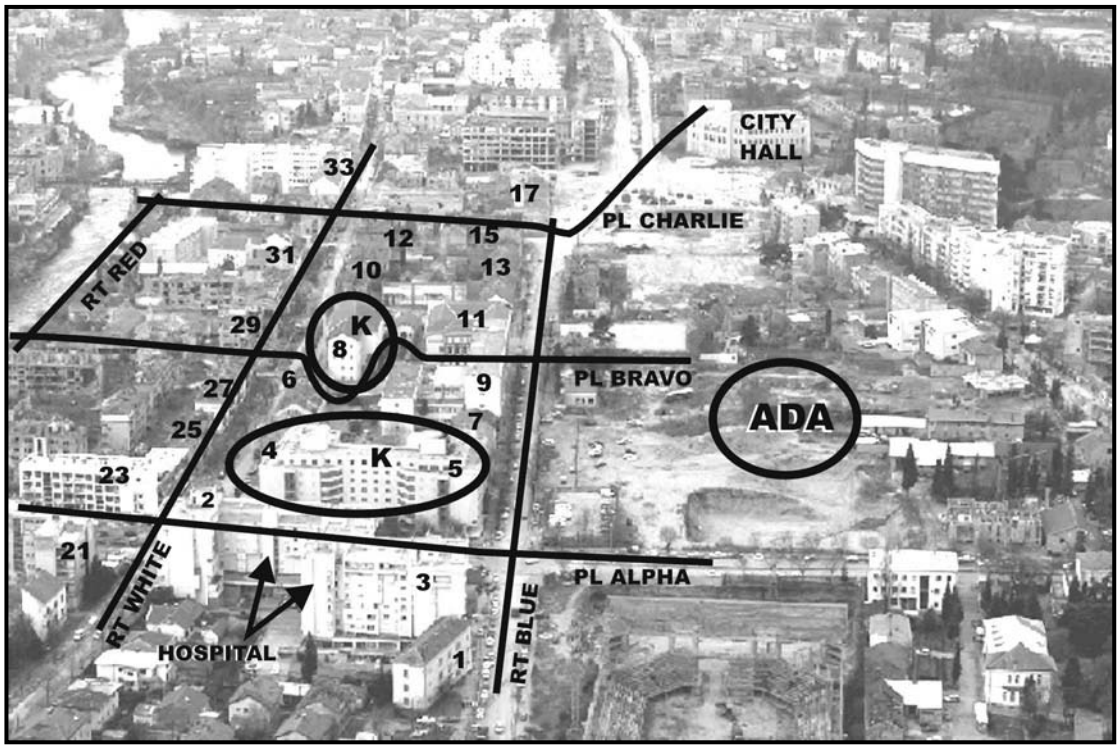


Figure 9-5. Refinement of photographic reconnaissance.

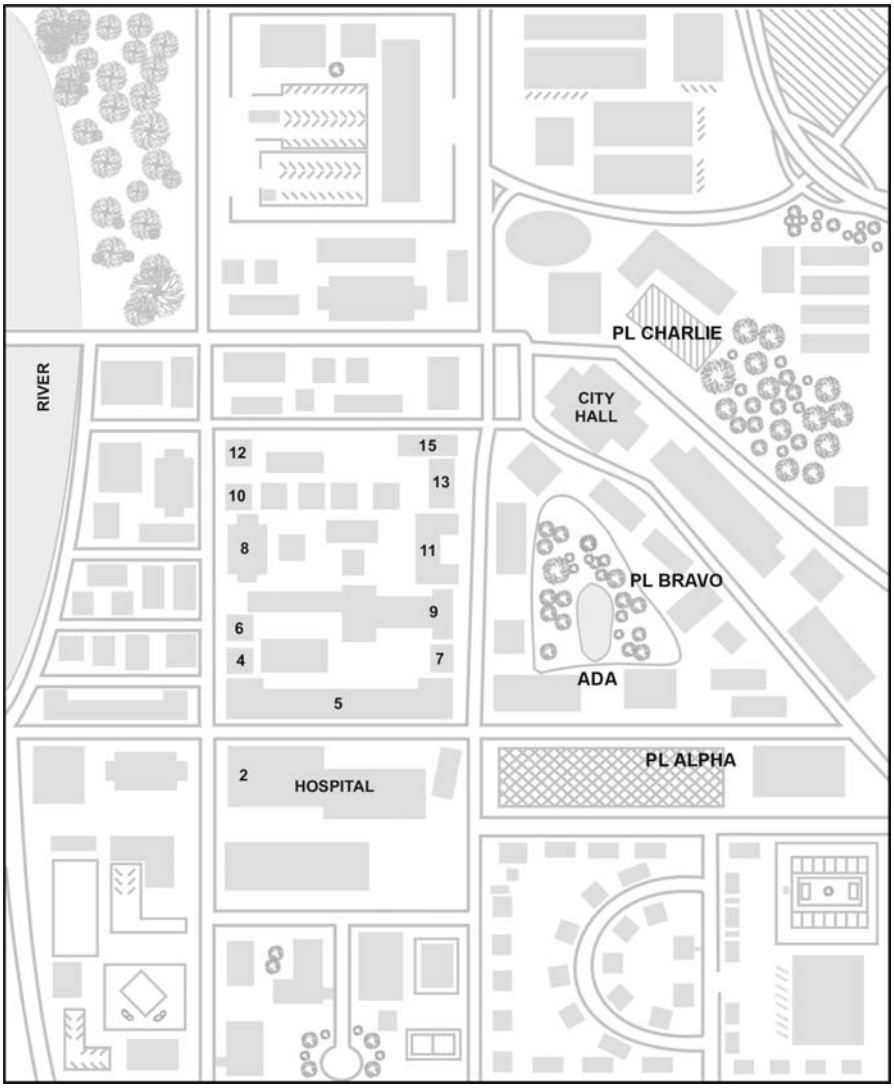


Figure 9-6. Urban operations sketch.

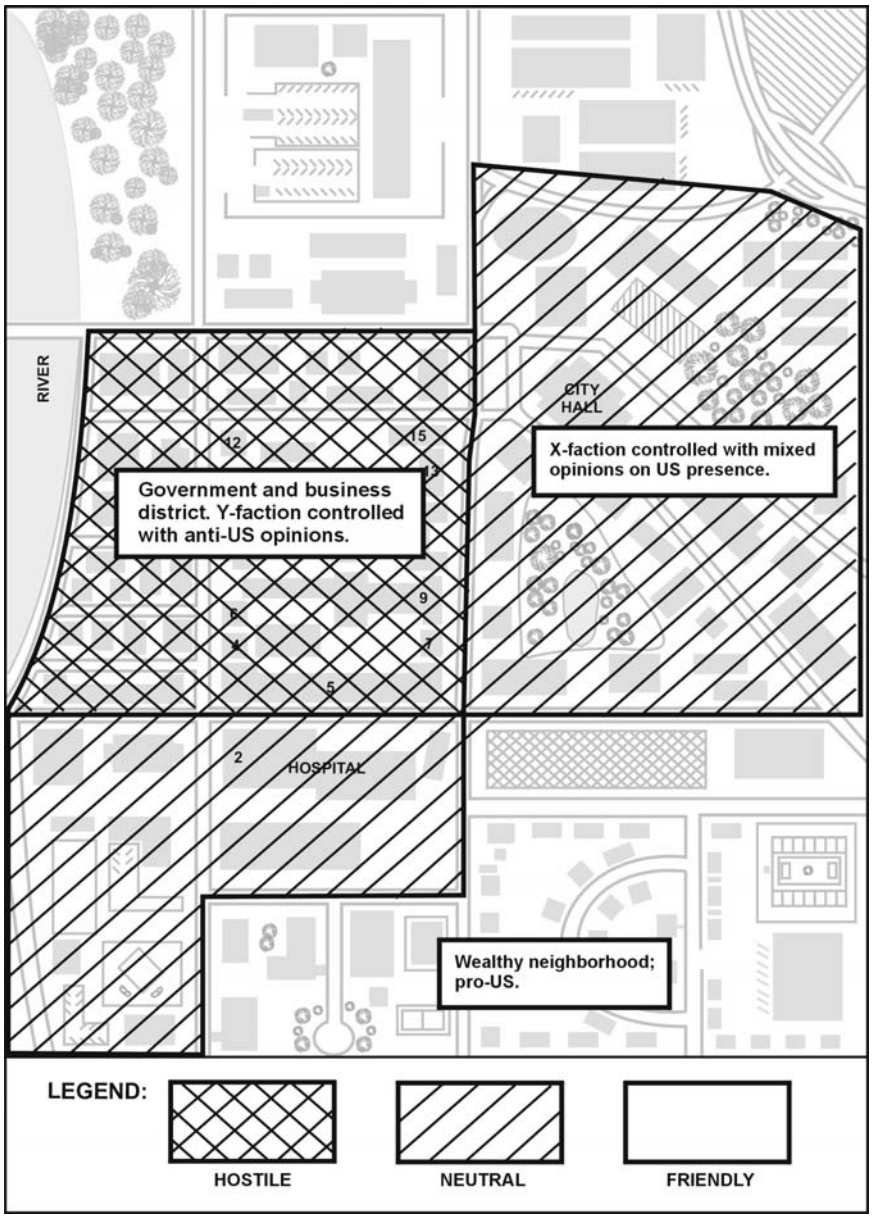


Figure 9-7. Urban operations overlay (terrain classification).

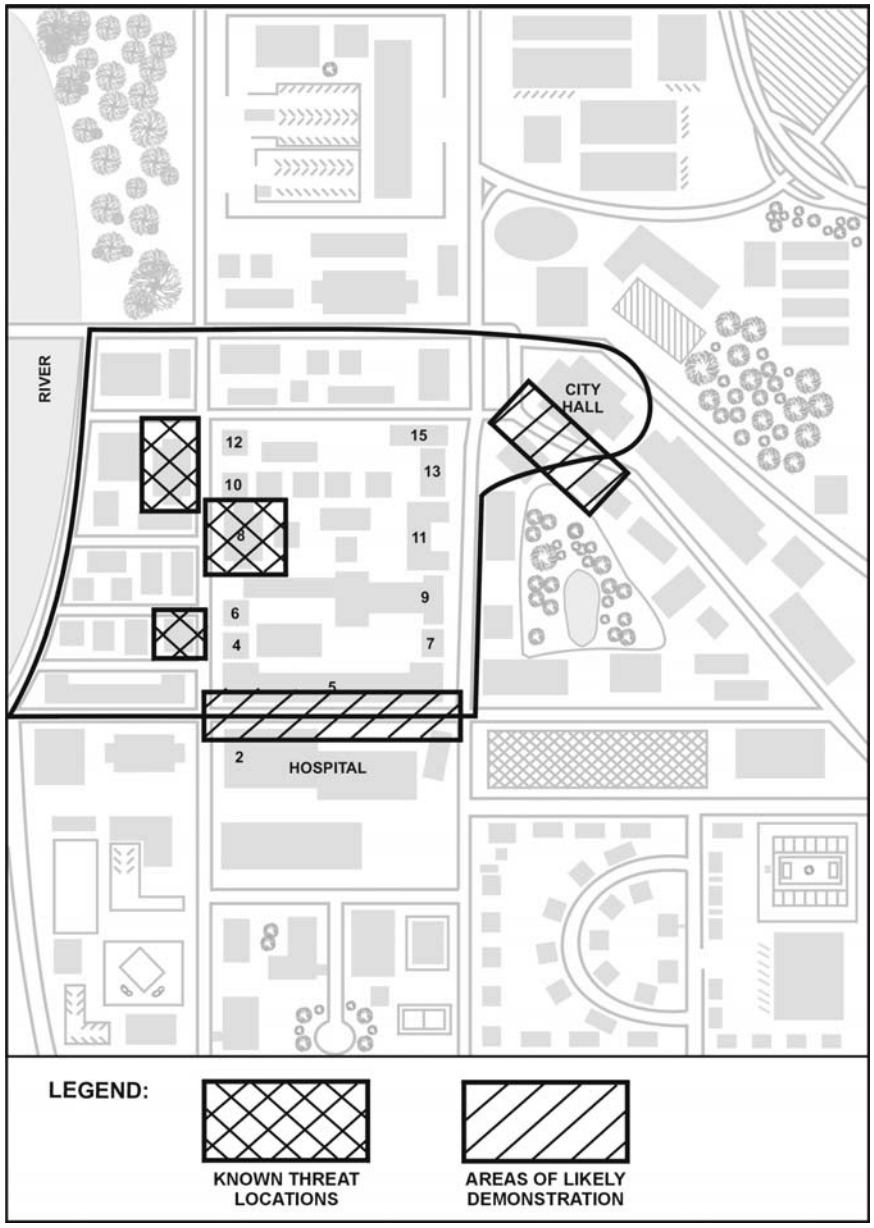


Figure 9-8. Urban operations overlay (threat positions and demonstration locations).

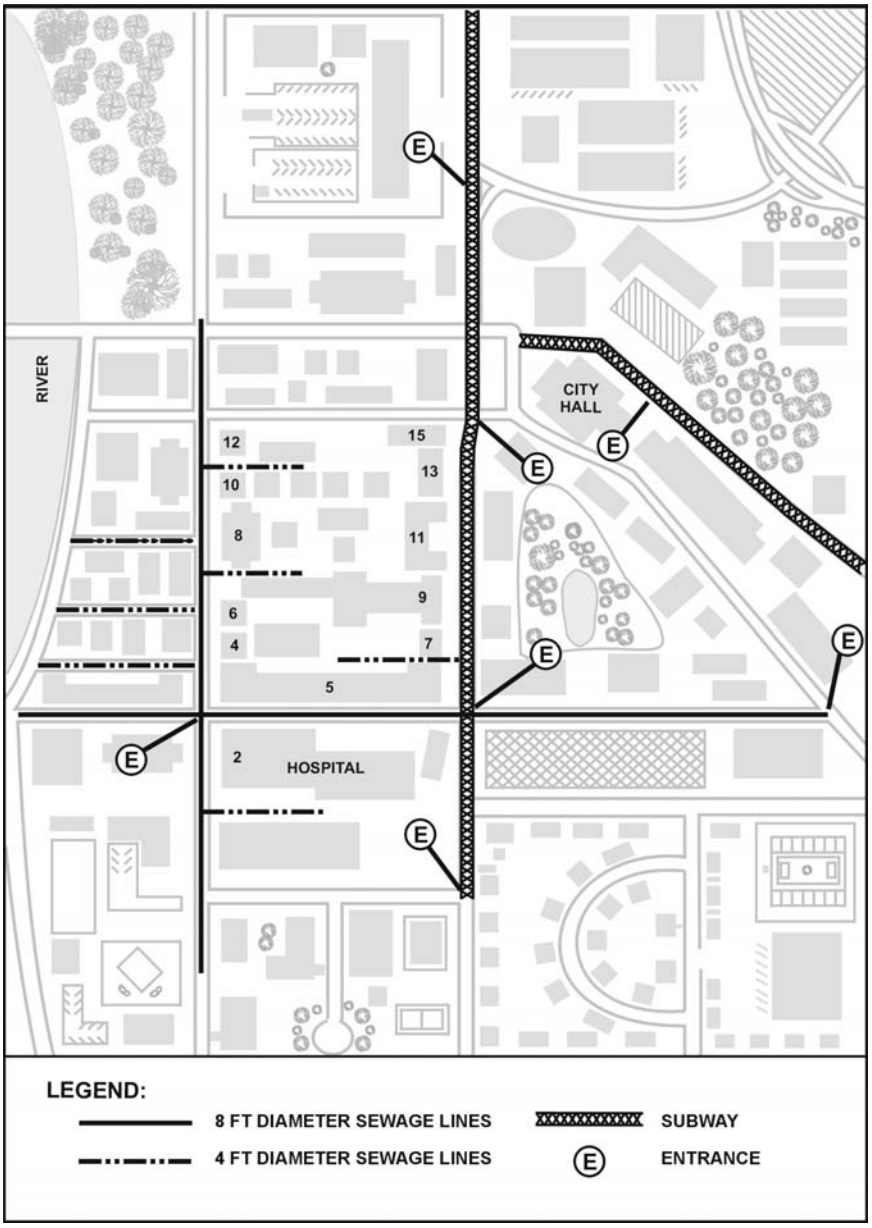


Figure 9-9. Urban operations overlay (subterranean infrastructure).

9-9. HOST NATION SUPPORT

Along with the tactical challenges, characteristics, and other urban-specific considerations listed in Section I, the reconnaissance platoon in UO faces the challenges of navigating in urban terrain and communicating with the local population. To help US forces, the host-nation government might provide local civilian or military personnel to serve as guides and interpreters.

a. When operating in a permissive environment, guides and interpreters can help the platoon communicate with the local population.

b. When conducting stability operations, civilians prove to be a valuable source of information.

c. When conducting combat operations in a nonpermissive environment, reconnaissance elements can use local civilians to guide the element safely to and from the objective area.

9-10. TASK ORGANIZATION

The three-dimensional urban battlefield has a unique set of complexities. Before entering an urban area, the reconnaissance platoon leader must task-organize for that specific operation's challenges. Some of his options are:

a. **Area Coverage**. He can organize to allow for greater area coverage.

b. **Multiple Observation Posts**. He can organize to put "eyes on" multiple areas of interest simultaneously.

(1) He can form two R&S teams from each squad. He can form a two-soldier team and a three-soldier team (Figure 9-10).

(2) He can include a platoon radio operator and eight two-soldier teams under the squad leader (Figure 9-11, page 9-20).

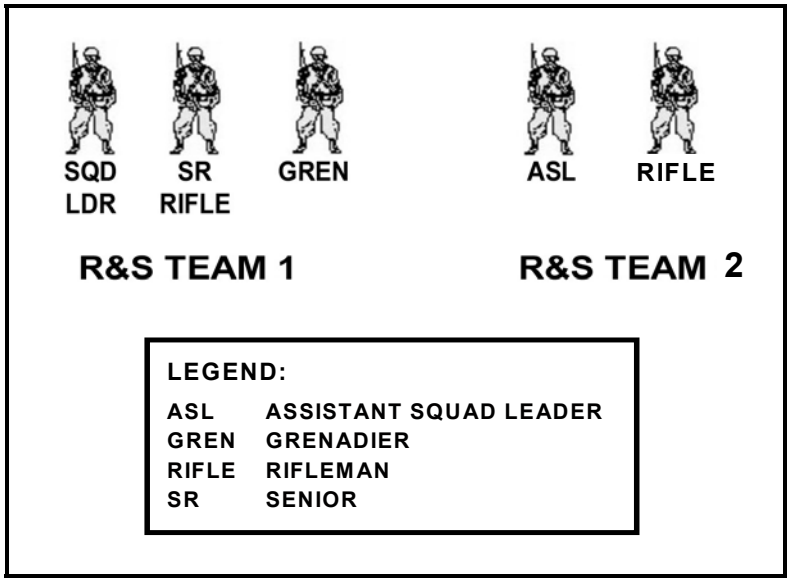


Figure 9-10. Reconnaissance squad.

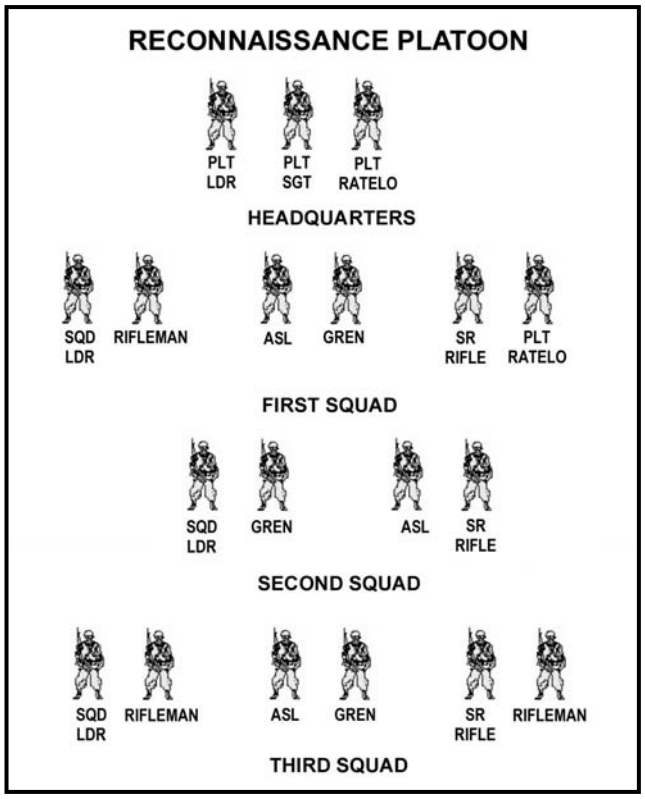


Figure 9-11. Two-soldier reconnaissance and security teams.

c. **Offensive Reconnaissance Mission**. He normally organizes the platoon into three reconnaissance squads, each with its own area, zone, or sector of responsibility.

d. **Security Operation**. This type of operation could consist of screening or guarding. The platoon leader can form the platoon into two-soldier teams (controlled by squad leaders) to cover all of the avenues in the dense urban terrain.

9-11. MOVEMENT

The reconnaissance platoon improves survival on the battlefield by using stealth and dispersion, and by maintaining security during all tactical movements. When conducting tactical movement in urban terrain, reconnaissance elements use their standard movement formations and techniques as much as possible, modifying them as needed. Due to the three-dimensional aspect of urban terrain (streets, buildings, underground, and air), each member of the element must maintain strict observation of his assigned sector, anticipating enemy contact from any direction at any time. To reduce the chances of compromise, reconnaissance elements should plan to move only at night. If they cannot do so, then they must take advantage of any cover afforded by urban terrain.

a. **Individual Movement**. When conducting movement near buildings, the soldier does the following (see FM 3-06.11 [FM 90-10-1], Chapter 3 for more specific movement TTP):

(1) Avoids silhouetting himself in doors and windows.

(2) Avoids moving alone; moves with at least one other soldier for security.

(3) Tries to stay 12 to 18 inches away from walls when moving. Rubbing against walls could alert an enemy on the other side of the wall. Also, ricochet rounds tend to travel parallel to a wall.

(4) Avoids stepping into puddles of water or any other substances that could leave tracks. Carries several plastic grocery bags with him. If he must walk through such a substance, he can cover his boots with the bags, then remove the bags as soon as he clears the obstacle. This prevents him from tracking the substance elsewhere.

b. **Squad Movement**. Squads moving along streets or alleys should use the modified wedge (file), maintaining 3 to 5 meters of separation between individuals. Due to the three-dimensional nature of urban terrain, each soldier in the squad has a specific sector to secure.

(1) For example, the point soldier, or the first soldier in the order of movement, observes street level to his front, generally from 12 o'clock to 1 o'clock. The Number Two soldier observes to the front and across the street (1 o'clock to 2 o'clock), both at street level and upper stories. The squad leader observes the upper stories to his front (his 12 o'clock). He also observes the same side of the street the squad observes. The Number Three soldier observes across the street (from 2 o'clock to 4 o'clock), from street level up. The Number Four soldier provides rear security for the squad. He observes from 4 o'clock to 6 o'clock, street level and upper stories (Figure 9-12).

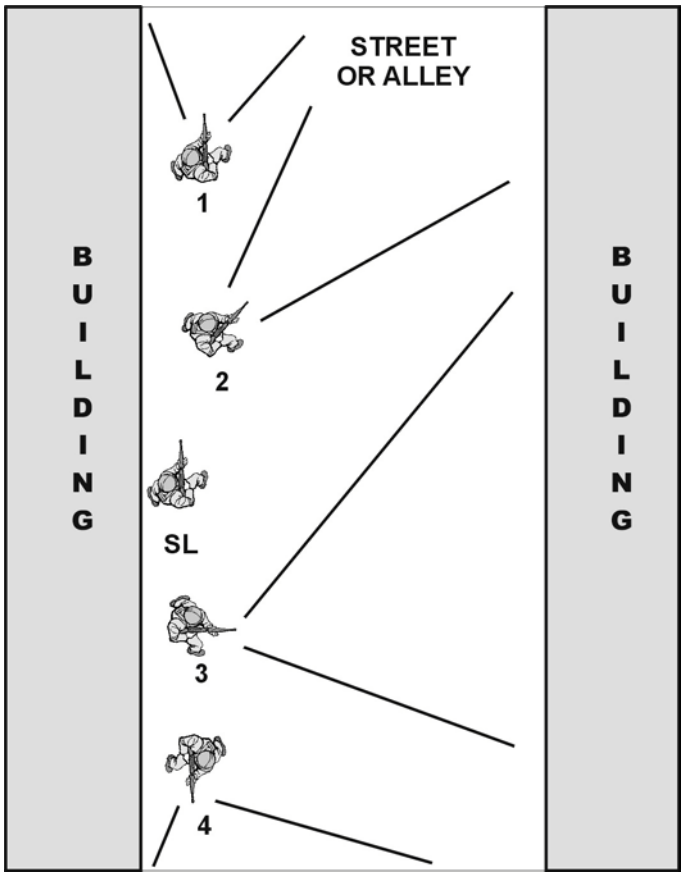


Figure 9-12. Sectors of security.

(2) Moving from building to building or between buildings poses a risk. The enemy can easily detect a squad, which makes a large target for enemy fire. When moving from the corner of one building to the corner of another building, the squad should cross the open area as two separate groups (Figures 9-13 through 9-17, pages 9-22 through 9-24).

(a) Beginning from the standard modified wedge formation for moving along streets (Figure 9-13), the Number Two soldier moves to a position parallel to the Number One soldier.

(b) On signal, Number One and Number Two soldiers rush across the intersection to the adjacent corner (Figure 9-14). As they move, the squad leader and the Number Three and Number Four soldiers position themselves on line and prepare to move. They maintain security to their flanks and rear.

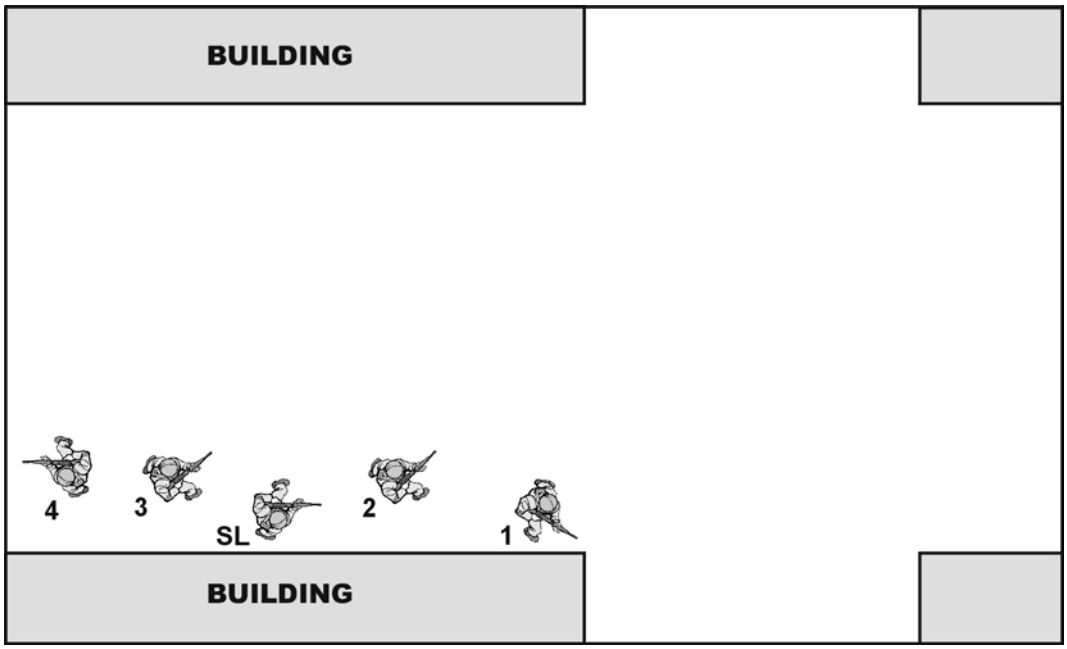


Figure 9-13. Squad prepared to cross from corner to corner.

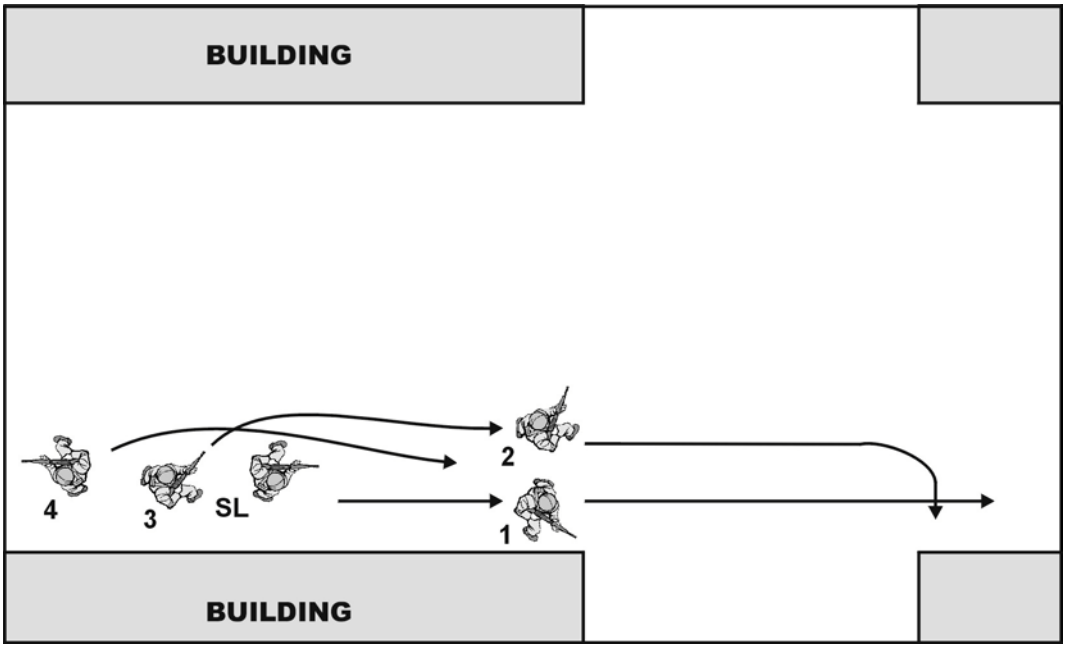


Figure 9-14. Number One and Number Two soldiers cross.

(c) On signal, the Number Four soldier turns toward the direction of movement. He, the squad leader, and the Number Three soldier rush across the intersection (Figure 9-15).

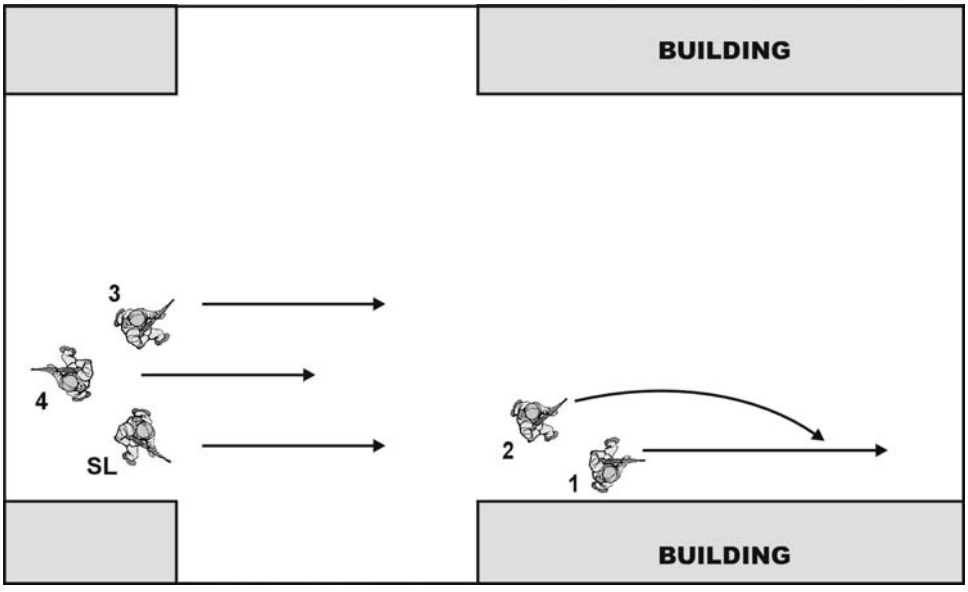


Figure 9-15. Squad leader, Number Three soldier, and Number Four soldier starting to cross.

(d) At the same time, the Number One and Number Two soldiers continue to move in the planned direction of travel (Figure 9-16).

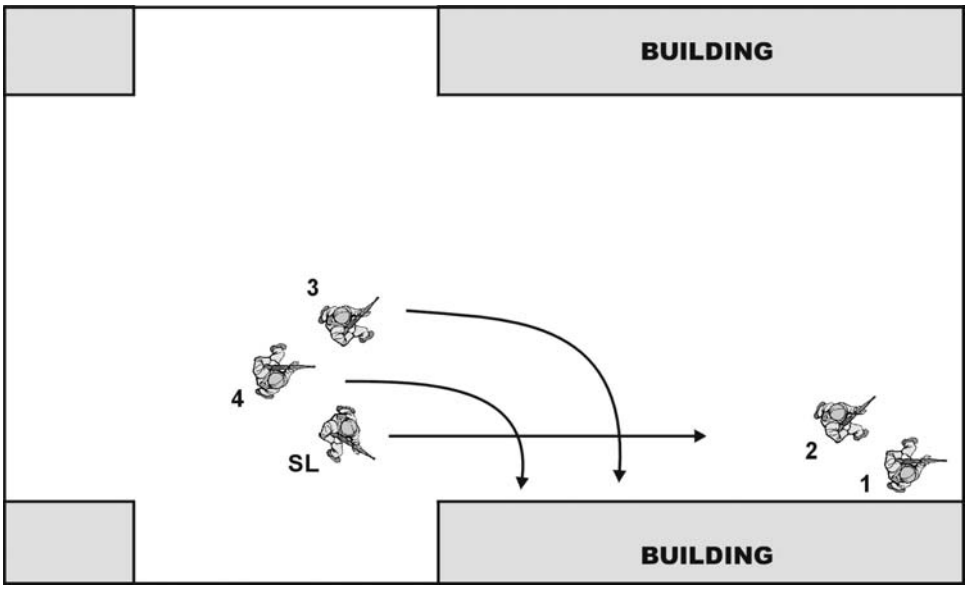


Figure 9-16. Remainder of squad on far side.

(e) When the entire squad has crossed the intersection, they again assume their travelling formation and continue to move (Figure 9-17).

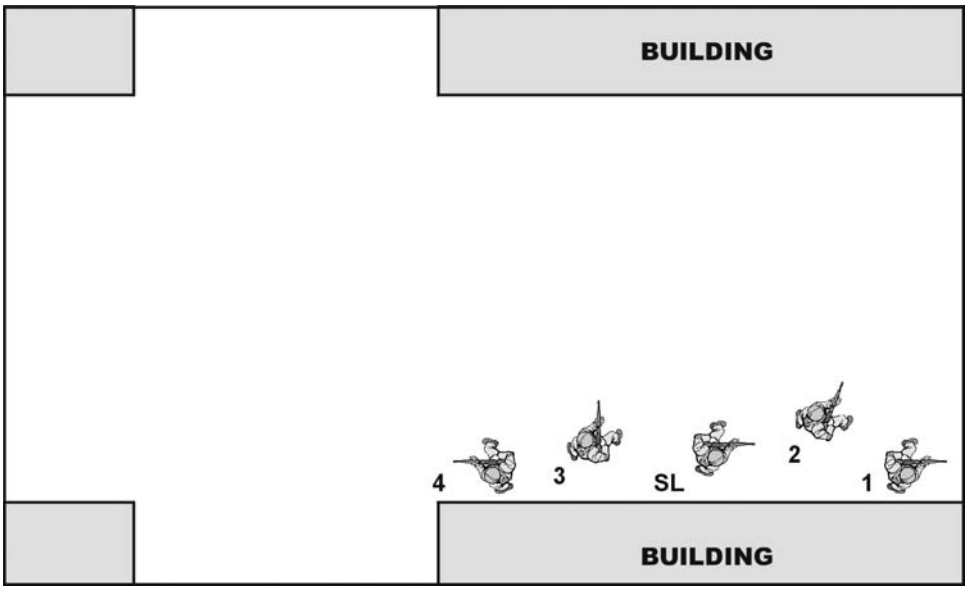


Figure 9-17. Squad resuming movement.

(3) Moving from the side of one building across the street to the side of another building, *not* at a corner, presents a similar problem. The squad uses the same technique

of movement, and it uses the building as cover. In moving adjacent to a building, squad members should keep a distance of 3 to 5 meters between themselves (Figure 9-18).

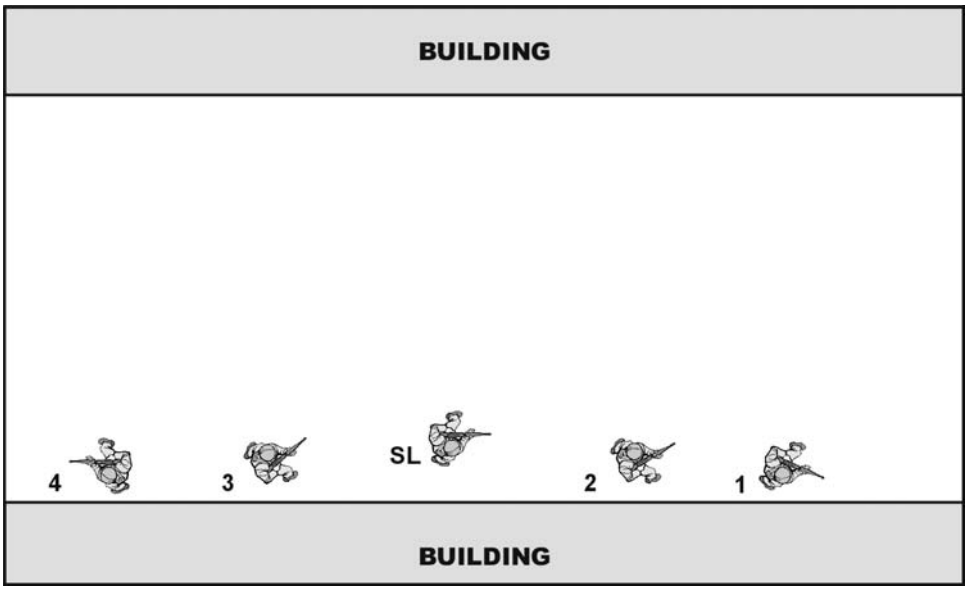


Figure 9-18. Squad moving adjacent to building.

(a) Using a planned signal, all members make an abrupt facing movement (Figure 9-19).

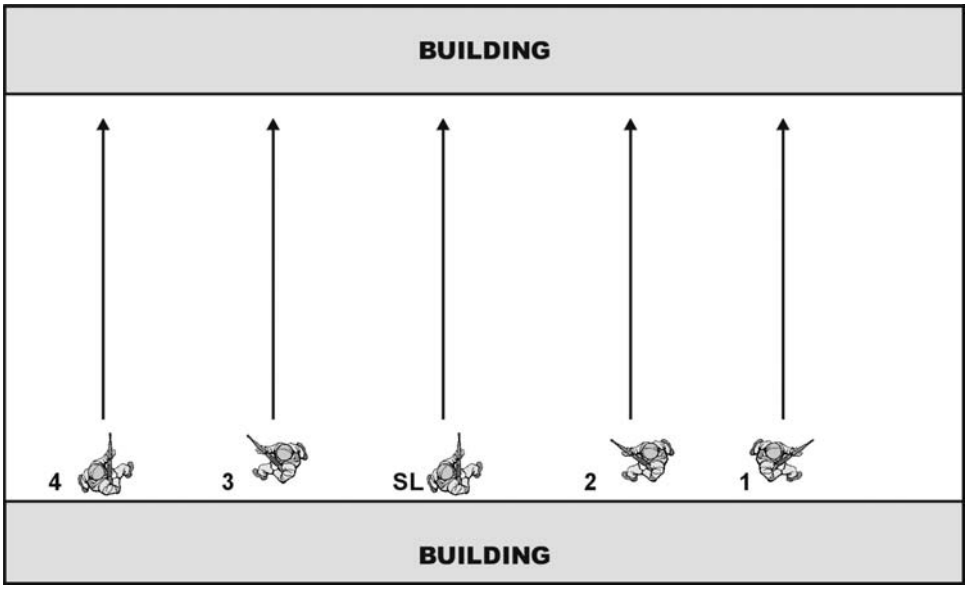


Figure 9-19. Squad executing abrupt facing movement.

(b) The squad crosses the open area to the next building (Figure 9-20).

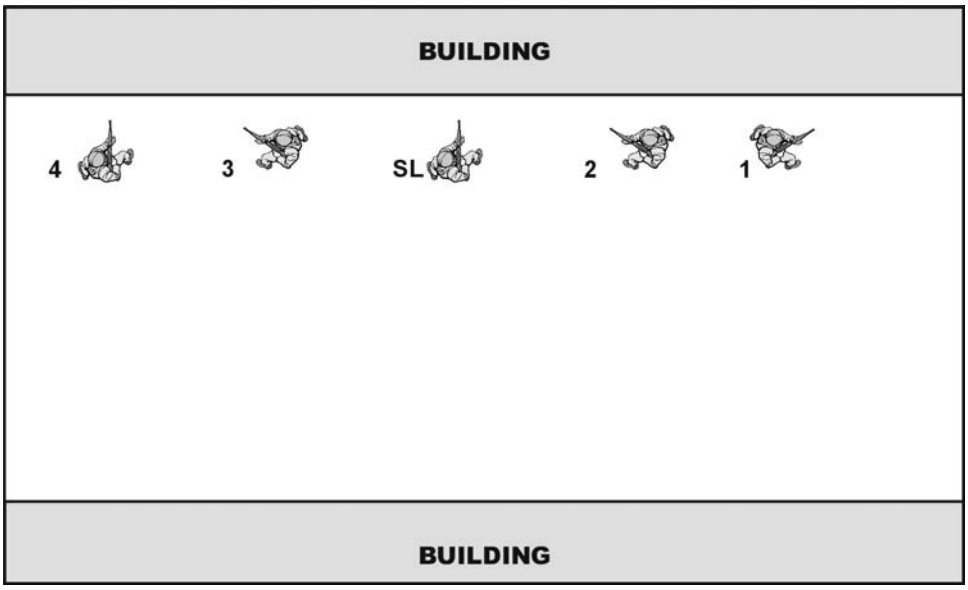


Figure 9-20. Squad crossing open area to adjacent building.

(c) Squad resumes movement (Figure 9-21).

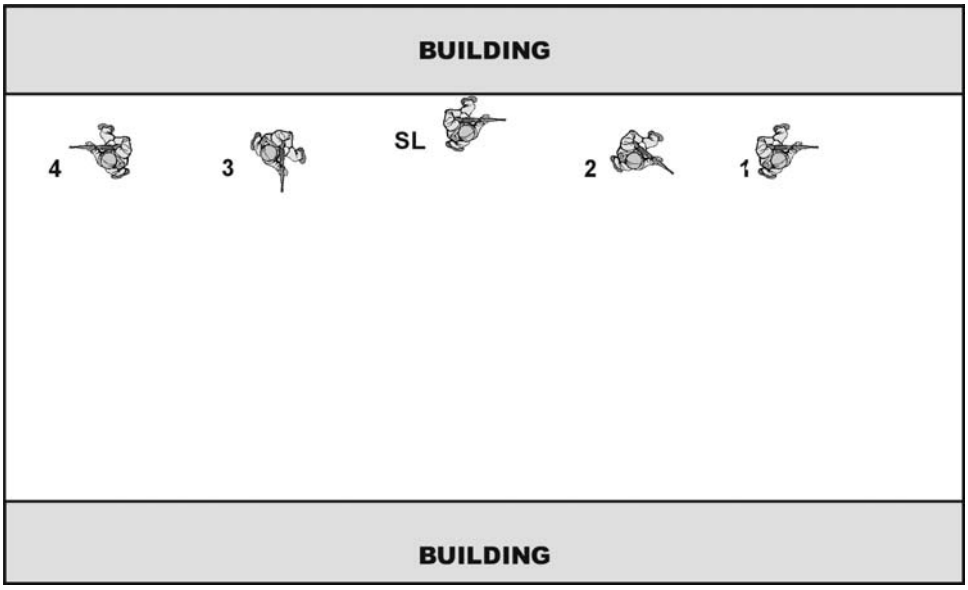


Figure 9-21. Squad resuming movement.

c. **Hallway Movement Formations**. The squad must always be alert. Members provide 360 degrees security at all times. Inside buildings, the squad provides security laterally down corridors. If near stairs or landings, they also provide upward security. The three basic techniques for moving down hallways are the serpentine, the rolling "T," and

the modified trail. Hallway intersections are dangerous areas. The squad should approach them cautiously. The serpentine and rolling "T" movement techniques are used by the reconnaissance squad when speed is required and the chance of enemy contact is low (Figure 9-22).

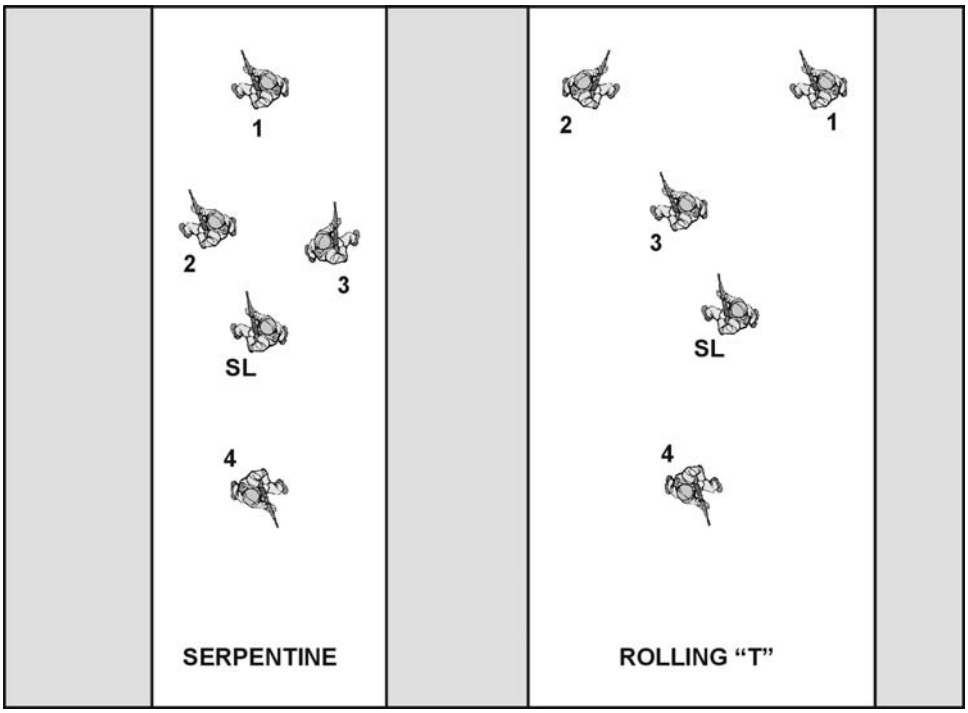


Figure 9-22. Hallway movement techniques.

(1) ***Serpentine Formation***. The five-soldier reconnaissance squad uses the serpentine technique when moving in narrow hallways. The Number One soldier provides security to the front. His sector of security includes the far end of the hall and any doorways near the end. The Number Two and Number Three soldiers observe the left and right sides of the Number One soldier. Their sectors of security include any nearby doorways on either side of the hall. They cover the Number One soldier's flanks. The squad leader moves behind the Number Two and Number Three soldiers and centers on them so he can observe and control the squad. The Number Four soldier provides rear security, observing the hallway behind the squad.

(2) ***Rolling "T" Formation***. The squad uses the rolling "T" technique when moving in wide hallways. The Number One and Number Two soldiers move abreast, observing the opposite side of the hallway from their position. The Number Three soldier observes the far end of the hallway from a position behind the Number One and Number Two soldiers, observing between them. The squad leader moves behind the Number Three soldier so that he can observe and control the squad. Again, the Number Four soldier provides rear security.

(3) ***Modified Trail Formation***. The squad uses the modified trail formation when contact with the enemy is possible and speed is not important. The squad moves along the hallway in a staggered trail formation. Number One and Number Two soldiers observe

the length of the hallway on their respective sides. The squad leader follows, controlling movement. The Number Three and Number Four soldiers position themselves behind the squad leader and stagger their positions as well. They both observe to the rear and along their respective sides (Figure 9-23). When using this movement technique, soldiers should leave enough separation between them to execute the "break contact" drill. No more than two personnel should be in short stretches of hallway (less than 50 feet between intersections) (Figure 9-24).

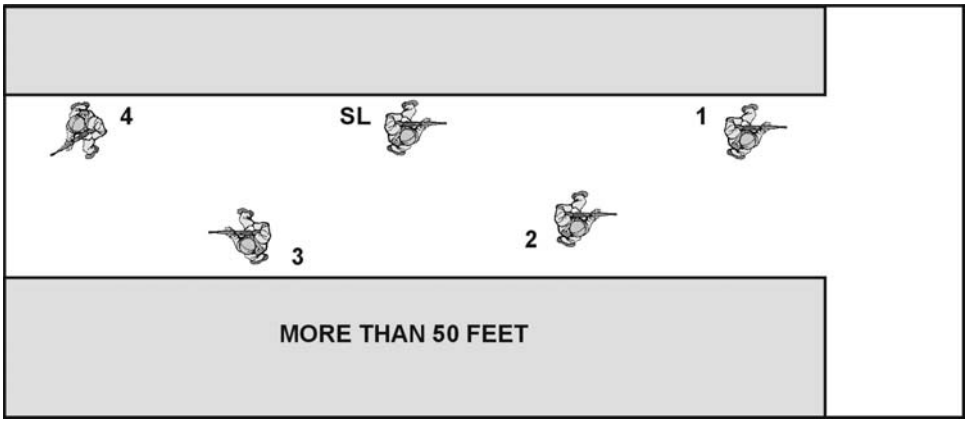


Figure 9-23. Modified trail movement technique (long hallway).

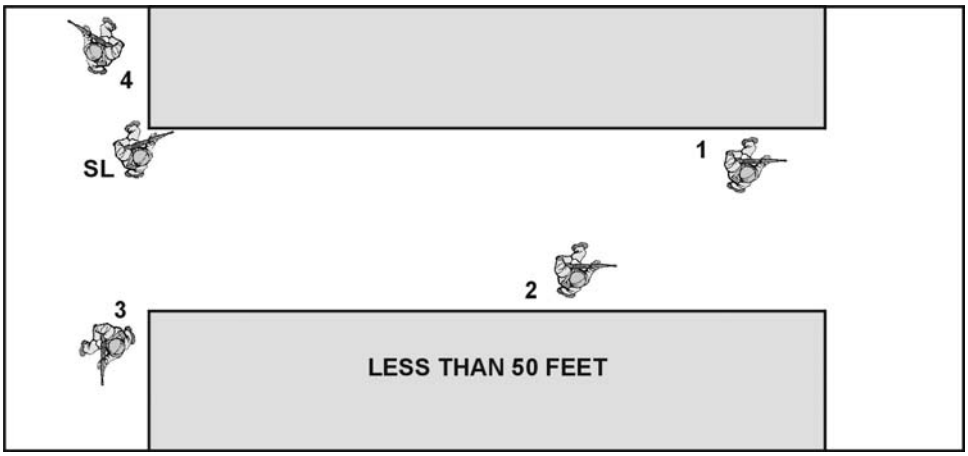


Figure 9-24. Modified trail movement technique (short hallway).

(a) When clearing around corners during modified trail movement, the Number One soldier stops short of the intersection, allowing the Number Two soldier to move abreast of him. At the same time, the squad leader moves forward to assist with security.

(b) Once on line with each other, the Number One and Number Two soldiers adjust their sectors of observation across the intersection and opposite their respective sides of the hallway (Figures 9-25 and 9-26). Once at the intersection, they alternate clearing around their respective corners by using mirrors or a "quick peek."

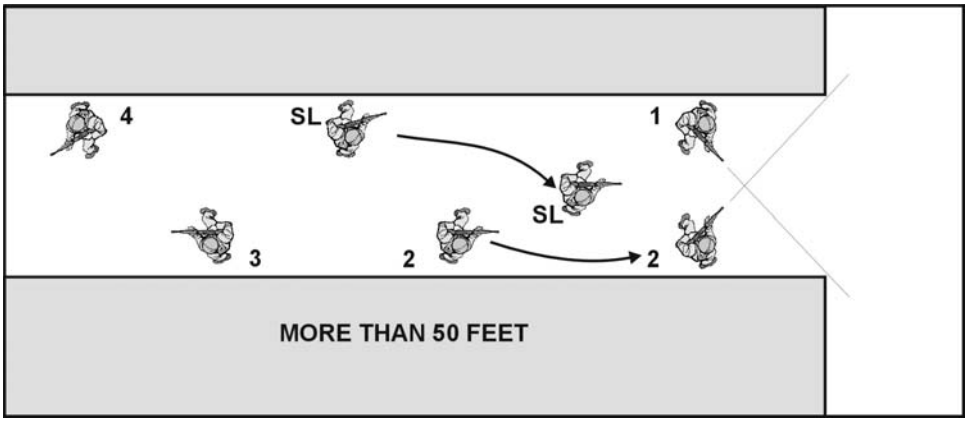


Figure 9-25. Clearing of corner from a long hallway.

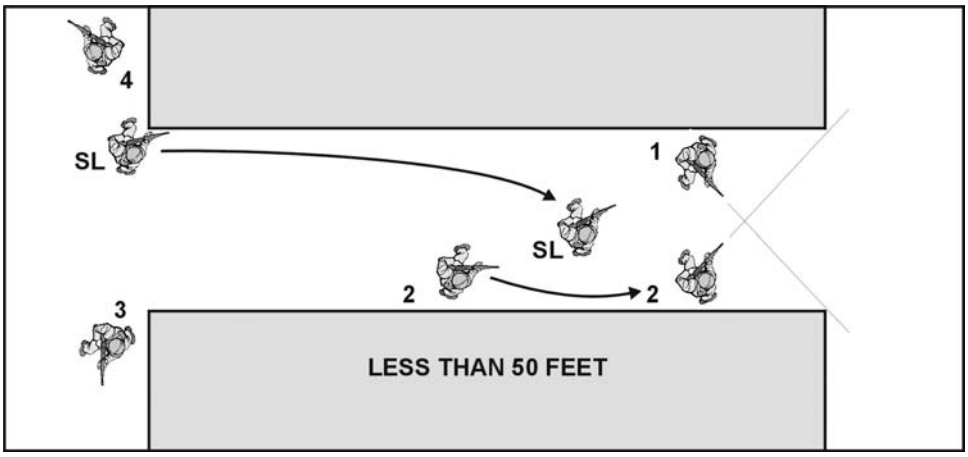


Figure 9-26. Clearing of corner from a short hallway.

d. **Clearing Stairwells and Staircases**. Like a doorway, a stairwell and a staircase create a "fatal funnel." The three-dimensional aspect of additional landings intensifies the danger. The squad's ability to conduct the movement depends on their direction of travel and on the layout of the stairs. The clearing technique follows a basic format:

(1) The squad leader designates two or three soldiers to clear the stairs.

(2) The squad maintains 360-degree/three-dimensional security near the stairs.

(3) The squad leader then directs the clearing team to locate, mark, bypass, or clear any obstacles or booby traps that may be blocking access to the stairs.

(4) The clearing team moves up (or down) the stairways using either the two- or three-soldier "flow" technique, which provides for overwatching up and down the stairs during movement. The three-man variation works best (Figure 9-27, page 9-30).

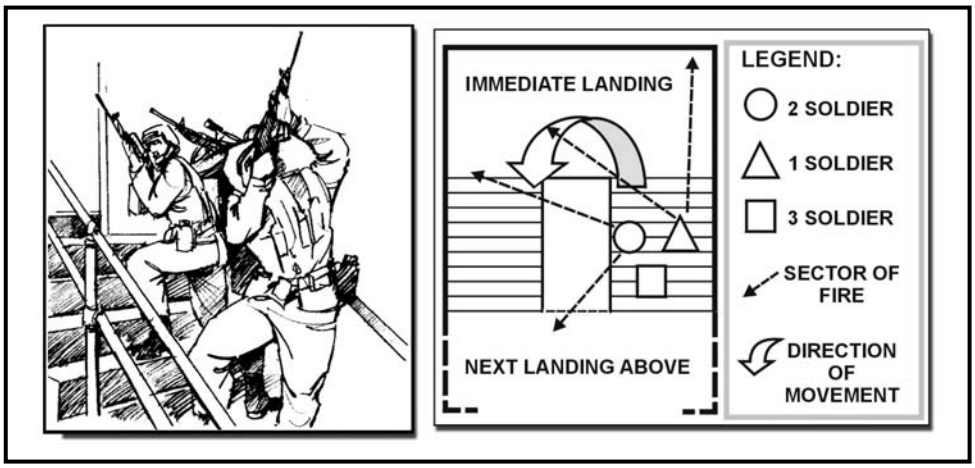


Figure 9-27. Three-soldier "flow" clearing technique.

9-12. ACTIONS ON ENEMY CONTACT

Though the reconnaissance element tries to avoid enemy contact, it cannot always do so. When operating in urban terrain, the reconnaissance element initially does the same thing when confronted by an opposing enemy force as it would in any other terrain. It breaks contact as quickly as possible, accounts for all personnel, moves to the designated rally point, and notifies higher headquarters.

a. The majority of contacts occur in canalizing terrain such as streets, alleys, and hallways. Contact can occur by chance or as a deliberate enemy action such as an ambush or counterreconnaissance. Once it makes contact, the reconnaissance element either breaks contact (meets enemy by chance) or reacts to contact (ambushes the enemy) near or far. This increases survivability. Once the squad is out of contact, it accounts for all personnel, tries to notify higher headquarters, withdraws from the structure, and proceeds to the rally point.

b. When it makes contact in a street or alley, the reconnaissance element should first try to disengage using a covered route around a corner or into a building. Then, it should keep moving out of the area. If this is not immediately possible, soldiers should seek the nearest covered or concealed position and return fire. The reconnaissance leader directs 40-mm HE, hand grenades, and small-arms fire onto the enemy positions and employs screening smoke to conceal movement. He begins a controlled bounding movement rearward and continues until the entire element moves out of range of enemy fire. He accounts for all personnel, tries to notify higher headquarters, and withdraws to a planned rally point.

c. When the reconnaissance element makes contact while moving inside a building (hallway or stairwell), it first tries to break contact by moving around corners or into adjacent hallways, then it continues to move out of the area.

(1) If the element makes contact at close range (15 meters or less) and cannot find cover, the Number One and Number Two soldiers engage the enemy at once with rapid semiautomatic fire. At the same time, they assault the threat until they neutralize it (Figure 9-28). Other members of the squad (the Number Three soldier and the squad leader) should stay prepared to engage any targets that present themselves. However, they

should not fire past the Number One and Number Two soldiers. The Number Four soldier seeks cover and provides rear security.

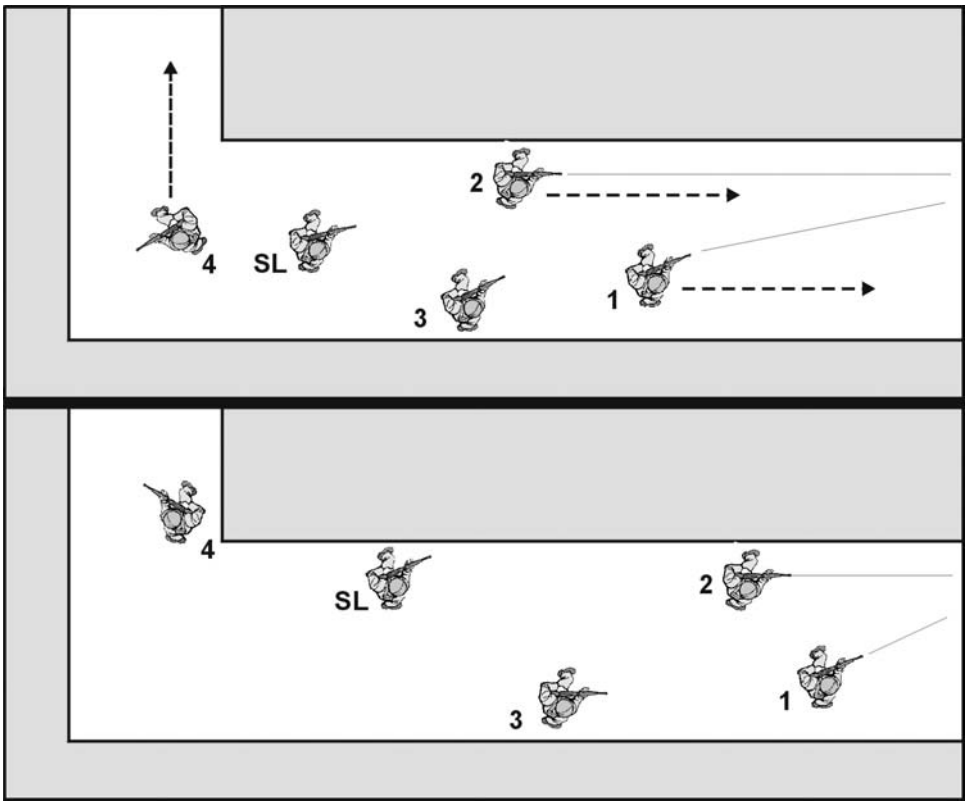


Figure 9-28. Reaction to contact (near).

(2) If the reconnaissance platoon makes contact at a range greater than 15 meters, and if it can find no immediate way out, then the Number One soldier starts engaging the enemy with rapid semiautomatic fire. It withdraws to the rear, and the Number Two and Number Three soldiers assume kneeling positions. The Number Two soldier engages the enemy with rapid semiautomatic fire as well. The squad leader shifts to one side of the hall and assumes a kneeling position, ready to provide covering fire as his squad withdraws. The Number Four soldier (facing to the rear) moves to the nearest hallway intersection or doorway that offers cover (Figure 9-29, page 9-32). He ensures the area is secure. Once the Number One soldier clears the Number Three soldier's field of fire, the Number Three soldier begins to engage the enemy with rapid semiautomatic fire (Figure 9-30, page 9-32). After moving to a position forward of the Number Four soldier, the Number One soldier provides security along the rearward hallway.

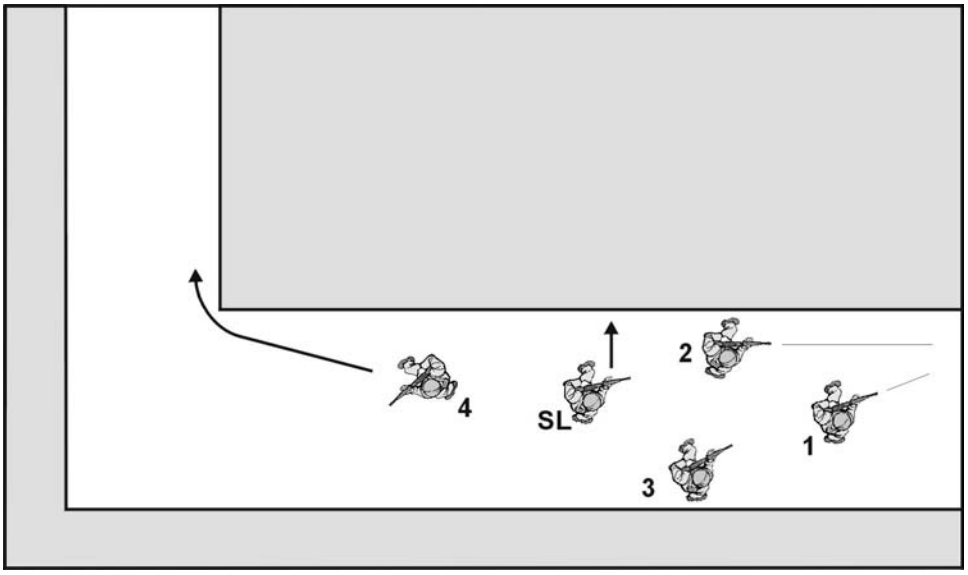


Figure 9-29. Breaking of contact under fire.

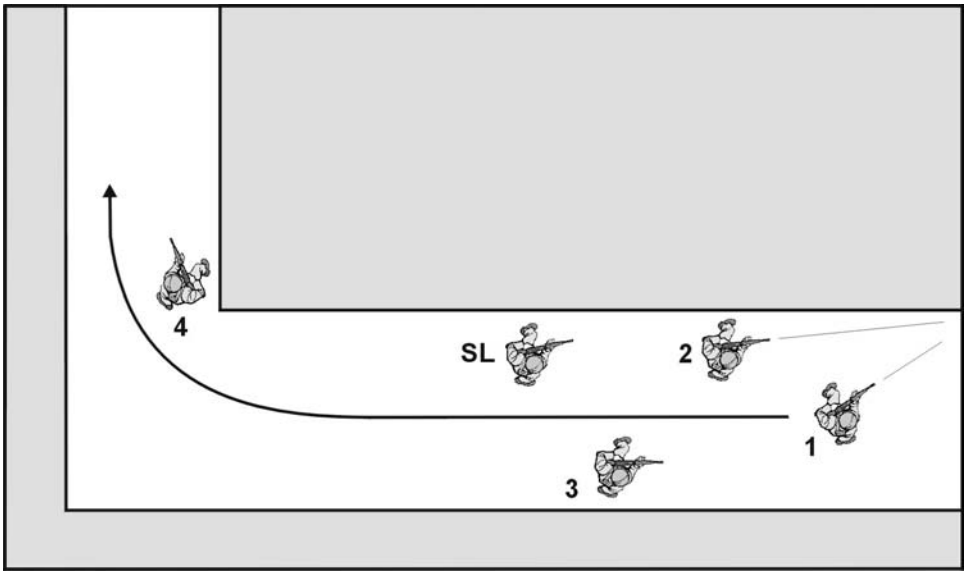


Figure 9-30. Movement of Number One soldier.

(3) Then the Number Four soldier turns around to support the squad's withdrawal. Once the Number Three soldier begins providing suppressive fire, the Number Two soldier begins to withdraw in the same manner as the Number One soldier (Figure 9-31).

(4) As the Number Two soldier passes the squad leader, the squad leader begins to provide suppressive fire; the Number Three soldier prepares to withdraw, as did the Number Two soldier (Figure 9-32).

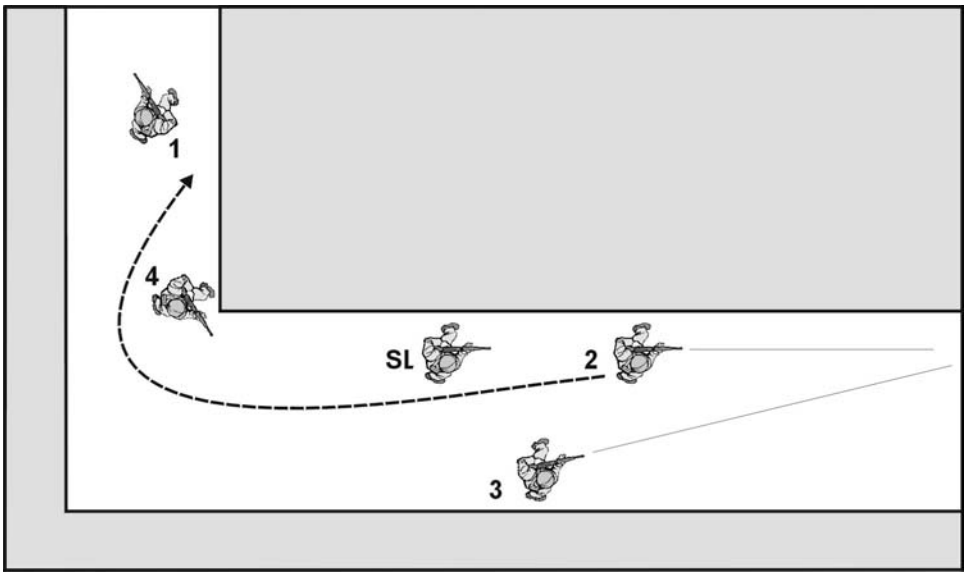


Figure 9-31. Movement of Number Two soldier.

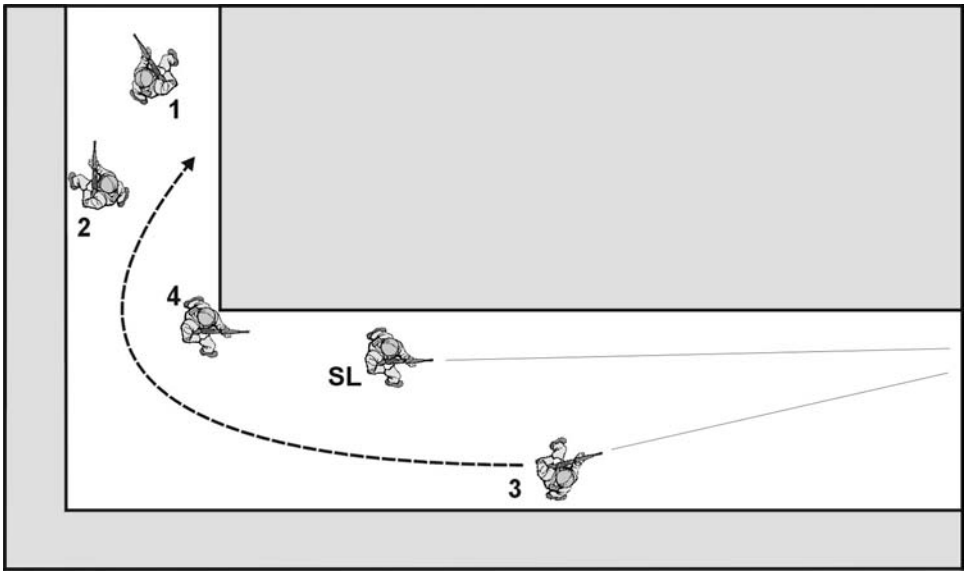


Figure 9-32. Movement of Number Three soldier.

(5) After the Number Three soldier has moved, the squad leader moves into the center of the hallway, allowing the Number Four soldier to engage any threat as the squad leader withdraws (Figure 9-33, page 9-34).

(6) When the squad leader moves out of contact with the enemy, the squad is ready to move (Figure 9-34, page 9-34).

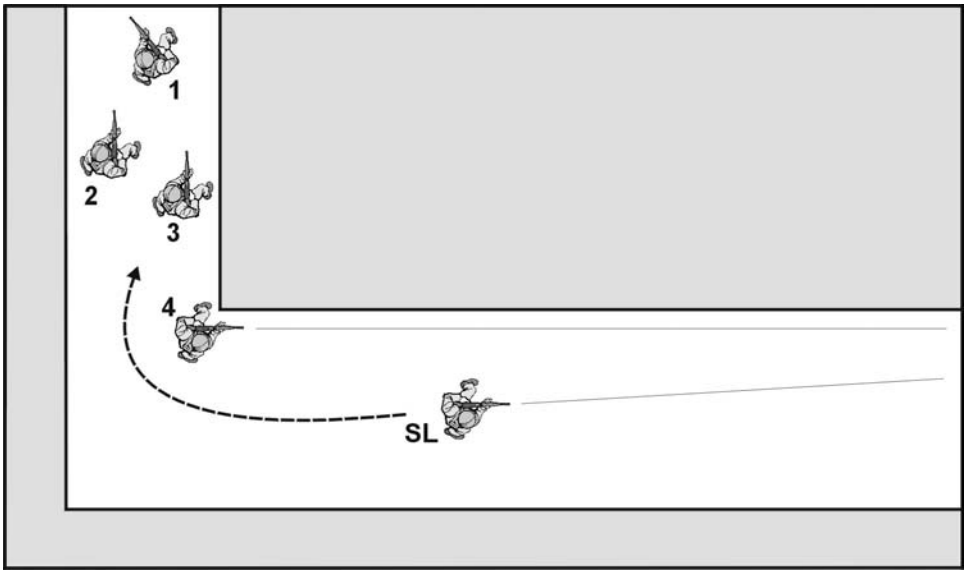


Figure 9-33. Movement of squad leader.

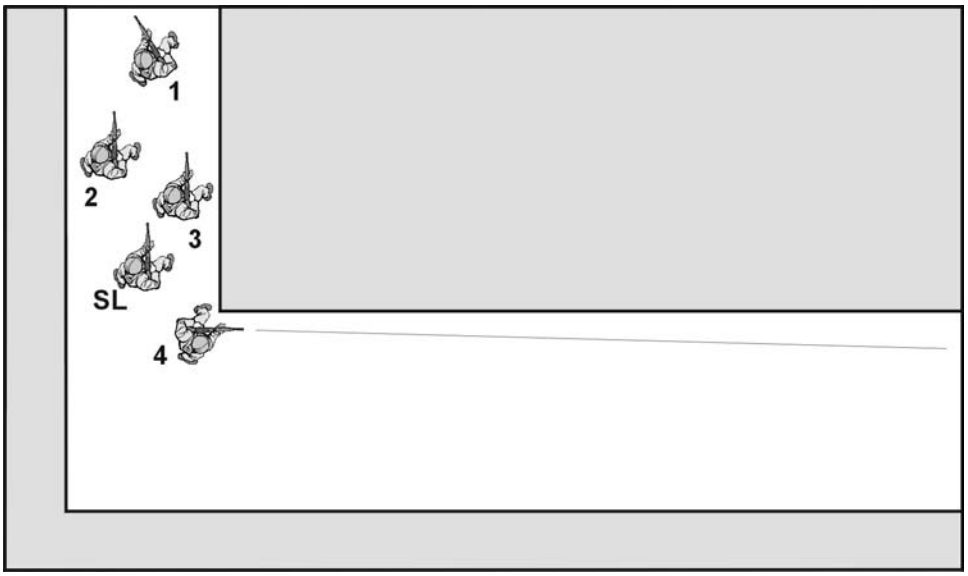


Figure 9-34. Squad positioned to move.

9-13. ESTABLISHMENT OF AN OBJECTIVE RALLY POINT

Establishing an objective rally point (ORP) in urban terrain is extremely difficult. When selecting an ORP, the platoon must consider several factors. The ORP needs cover and concealment, a good buffer between it and the natural lines of drift, defensibility for a short period, and ease of location for returning soldiers. When designating a tentative ORP, the leader conducts a detailed map reconnaissance to identify a suitable location.

He always visually reconnoiters the planned ORP before he occupies it. When selecting a tentative ORP, he considers the following areas:

- Parks or recreation areas with adjacent wood lines.
- Vegetated creeks and streambeds (normally dividing neighborhoods).
- Auto salvage yards or junkyards.
- Warehouses or shipping yards.
- Major highway interchanges.
- Cemeteries.
- Subterranean facilities.

9-14. ESTABLISHMENT OF OBSERVATION POSTS

In urban operations, the reconnaissance platoon can set up and operate observation posts (OPs).

a. **Placement**. They can set up OPs in either of two basic locations.

(1) ***Outside the Area***. An OP on the periphery can serve as a prelude to an offensive operation into the urban area. It could also play a defensive role well forward of the battalion's urban defensive positions. Either way, the platoon uses the same techniques to establish and operate the OP in UO that they would use in open terrain.

(2) ***Inside the Area***. Selecting and occupying an OP inside the confines of the urban area proves very difficult. To do it, the reconnaissance leader must have detailed maps of the city. This includes maps of subterranean facilities, maps with street names, and maps of all key and critical structures. Aerial photographs help in determining size, height and, possibly, structural composition of buildings in the AO. Pictures need to show clearly the AO's boundaries, suspected enemy locations, and routes of movement that the OP must observe.

b. **Considerations**. When selecting tentative OPs, leaders consider the following:

(1) ***Observation***. Roadways and open areas clearly define, but structures limit, the fields of observation. Surrounding rooftops, windows, and doorways become distractions requiring constant observation. Sectors of adjacent OPs should overlap. The effects of smoke from military obscurants and burning buildings can degrade what appeared to be an excellent vantage point. The platoon must provide all-round security, because the enemy can fire from many directions, and because the platoon must counter the enemy's attempts to infiltrate.

(2) ***Cover and Concealment***. Urban terrain readily provides cover and concealment for both maneuvering and static elements. However, the defender has a decisive advantage. A maneuvering attacker normally exposes his presence when moving through the area.

(3) ***Covered and or Concealed Routes to the Observation Post***. The element should move along avenues of approach inside buildings, whenever they can. The enemy is less likely to detect personnel moving inside buildings than those moving through the streets. Reconnaissance elements must remember the enemy will see them on standard avenues of approach. When possible, they should try to use subterranean routes.

(4) ***Specific Positions Inside the Area***. Leaders should position OPs in masonry buildings that offer long-range fields of observation and all-round views. The observer has an advantage because he does not have to move. However, the leader should avoid locating OPs-

(a) In heavy traffic areas. The enemy watches these.

(b) In such obvious positions as church steeples and rooftops. The enemy often watches these and targets them for destruction. Indirect fires can generally penetrate rooftops. Thus, they can cause casualties in the top floors of buildings.

(5) ***Multiple Positions***. Due to the restricted fields of observation in urban terrain, teams should identify and prepare alternate positions within their assigned sectors. A single position might not afford adequate observation without increasing the risk of detection, whereas two carefully placed positions might. Alternate positions must maintain mutual support with adjacent OPs.

9-15. SUBTERRANEAN OPERATIONS

In larger cities, subterranean features include underground garages, underground passages, subway lines, utility tunnels, sewers, and storm drains. Though most sewers allow troop movement, the element should try to avoid using them for that.

a. Subterranean passages provide covered and concealed routes of movement throughout the urban areas. A detailed knowledge of the nature and location of underground facilities is important to both attacker and defender. Maximizing the use of these facilities could prove to be a decisive action in an urban battle. When planning to conduct subterranean operations, reconnaissance element leaders should—

(1) Determine if using subterranean avenues of approach or occupying subterranean areas will help the platoon accomplish its mission.

(2) Analyze the subterranean mission and evaluate the impact of subterranean operations on the soldiers. Before submitting soldiers to subterranean combat, think it through first. Remember that it places extremely high physical and psychological demands on soldiers.

(3) Plan for redundant communications (messengers, wire, radios).

(4) Plan for additional weapons and ammunition that may be required for subterranean operations (shotguns, pistols, distraction devices, early warning, and so forth).

b. Underground passageways provide tight fields of fire. They amplify all sounds as well as the effect of munitions such as grenades. The insides of tunnels provide little or no cover and concealment, except for the darkness itself and any fabricated barriers. A thorough reconnaissance of the subterranean or sewer system must be made first. As opposed to storm systems, sewers contain various types of contamination. Leaders and soldiers should plan carefully before they enter such systems.

c. The tactical values of underground facilities for a reconnaissance element include the following (for further detail concerning subterranean TTP, see FM 90-10-1, Appendix D):

(1) ***Movement***. Subterranean routes enable the reconnaissance element to infiltrate the objective area undetected. Depending upon the size and experience of the threat forces, movement along the subterranean avenue of approach could be unimpeded. However, a large, well-trained opposing force will try to control subterranean facilities.

Once the reconnaissance element reaches the objective area, they must deploy multiple R&S teams aboveground and into buildings to conduct the area reconnaissance.

(2) ***Initial Reconnaissance***. The use of subterranean passages allows the reconnaissance element to conduct an initial infiltration into the urban area virtually undetected. Without prior intelligence of possible enemy positions, reconnaissance elements using subterranean routes can identify critical locations, structures, movement routes, and enemy positions. Curbside storm drains make excellent observation ports when conducting a route or zone reconnaissance, or when tasked to observe an essential intersection or roadway.

DANGER

- **LARGE AMOUNTS OF ANY TYPE OF GAS (INCLUDING THAT PRODUCED BY SMOKE GRENADES) CAN DISPLACE THE OXYGEN IN AN ENCLOSED SPACE. THIS RENDERS PROTECTIVE MASKS USELESS AND ENDANGERS THE LIVES OF ANYONE OPERATING IN THIS TYPE OF ENVIRONMENT. RESPIRATORS WITH THEIR OWN OXYGEN OFFER THE ONLY ACCEPTABLE SOLUTION FOR OPERATING IN THIS TYPE OF ENVIRONMENT.**
- **SMOKE GRENADES ALSO DISPLACE OXYGEN IN CONFINED SPACES.**
- **THE PRESENCE OF RODENTS AND OTHER PESTS IN A SUBTERRANEAN ENVIRONMENT INDICATE THAT SUFFICIENT OXYGEN IS PRESENT FOR SURVIVAL.**
- **FLAMMABLE GASES CAN CAUSE A MAJOR EXPLOSION WITH THE SLIGHTEST SPARK. FIRING A WEAPON COULD DO THE SAME.**
- **SOME GASSES EMIT NO DETECTIBLE ODOR. THE ONLY SURE WAY TO PROTECT SOLDIERS FROM HARMFUL GASSES IS TO VENTILATE THE PASSAGEWAY BY FORCING FRESH AIR INTO THE SITE. REMOVING A MANHOLE COVER DOES NOT ADEQUATELY VENTILATE A SUBTERRANEAN PASSAGEWAY.**

9-16. RECONNAISSANCE PLATOON AS A COMBAT MULTIPLIER

Urban operations often start with a reconnaissance mission begun outside the urban area. In some cases, when the operation starts, the enemy has not set up yet inside the city. Friendly forces could find themselves tasked to retain an urban area or to deny it to the

enemy. To accomplish this, reconnaissance efforts focus on locating enemy positions around the urban area and on monitoring them to detect any threat preparations to seize or occupy key urban terrain. In other cases, the enemy may not be conducting urban operations because of military limitations or political restrictions. The friendly commander (as well as the reconnaissance platoon leader) must realize that this situation could change unexpectedly once restrictions lift or when the enemy realizes he has much to gain from urban operations. Leaders can have the reconnaissance platoon monitor the enemy's activities while the task force prepares for a rapid transition to urban operations. Whatever information he obtains helps the commander interdict before the enemy can seize or occupy key urban terrain. Once deployed within the city, the reconnaissance platoon seeks to pinpoint enemy defenses as well as undefended or weakly held areas where friendly forces could bypass or isolate the threat. This paragraph focuses on some of the reconnaissance platoon's operational considerations in urban operations.

a. **Disrupt Enemy Defenses**. The reconnaissance platoon can exploit tactical surprise and preempt effective defensive preparations within the city. Effective employment of reconnaissance elements, using appropriate techniques, significantly enhances the commander's ability to achieve surprise when his unit is conducting offensive urban operations. At the same time, while using intelligence collection and fire support assets to set necessary preconditions within the urban environment, he must avoid prematurely disclosing the presence of the reconnaissance platoon. The commander should also be aware that surprise is much more difficult for the defender to achieve in this situation; it is often possible only when the attacker suffers major failings in collection, analysis, and dissemination of intelligence.

(1) ***Exploit Weaknesses***. The reconnaissance platoon can also assist the commander in concentrating sufficient combat power at decisive points within the city. Historical experience indicates that, when an attacker wins despite inferior manpower and firepower, the defender has most likely violated one or more principles of war. Reconnaissance elements in support of an urban attack should always be alert to the possibility that the defender has not positioned his forces correctly or exhibits some other weaknesses or shortcomings.

(2) ***Neutralize Key Facilities***. The commander may be able to capitalize on such a weakness or shortcoming, or he may be able to create one. As an example, intelligence sources, including the reconnaissance platoon, have determined that the defending force relies on the local telephone exchange and military FM communications for command and control. The commander probes this weakness by directing his reconnaissance to identify key communications nodes. Once identified, the commander can disrupt enemy C2 by destroying the telephone system and jamming FM communications. He can also eliminate other types of commercial broadcasting systems, such as TV and radio, to deny the enemy a backup means of communications. The friendly commander then exploits this situation by massing combat power against isolated threat forces to seize key areas.

b. **Control the Employment of Fires**. The reconnaissance platoon can also play an important role in employing fires during urban operations. Reconnaissance elements call for and adjust indirect fires, assist in controlling close-air support, direct attack helicopter fires, and can discriminate between threat forces and civilians. They can accomplish this by effectively positioning on the battlefield and effectively using their acquisition capabilities.

(1) Traditionally, indirect artillery and mortar fire has been a significant factor in successful urban operations. Fire support has proved to be the primary means by which the commander can interdict enemy supply operations, as well as prevent the reinforcement and evacuation of enemy troops. In such instances, the commander plans and places indirect fires on routes leading to and from the city rather than in the urban area itself.

(a) During offensive operations, to prevent fratricide and other consequences of carelessly placed fires, the commander must employ fires precisely. Indiscriminate artillery and heavy mortar fires can degrade the ability of friendly forces to maneuver while simultaneously providing the enemy with an unintended advantage such as creating rubble that may be used for barrier materials or additional cover and concealment.

(b) Inaccurately placing fires can also cause significant collateral damage. In addition to causing fratricide and civilian casualties, friendly fires can undermine the city's supporting infrastructure by damaging water, gas, and electric service lines. It could also create natural disasters such as inadvertently releasing toxic industrial materials (TIM) from commercial chemical facilities.

(c) Indirect mortar fires are valuable during urban operations. Their high rate of fire, steep angle of fall, and short minimum range allow reconnaissance elements to mass considerable firepower on specific enemy positions, even in the tight confines of the urban battlefield. Using multioption fuses and various types of rounds increases the versatility of the indirect-fire plan. Mortars can obscure, neutralize, suppress, and illuminate the commander's battlespace.

(2) In support of his indirect-fire plan, the commander uses the reconnaissance platoon in various ways. Among others, he uses them to accurately direct fires onto enemy positions. He relies on them to provide "ground truth" information, which can help him prevent the problems associated with indiscriminate or inaccurate fires. These problems could of course include fratricide, civilian casualties, and serious collateral damage. Reconnaissance elements prove especially valuable in preventing fratricide by helping to ensure that the commander knows at all times the accurate locations of friendly and enemy forces in the urban area.

c. **Isolate the Enemy Force**. No single factor of urban combat has proven more important to success than isolation of the urban area. The reconnaissance platoon provides the commander with information that will help him determine how to isolate the enemy. Reconnaissance platoon operations also focus on identifying when and where the enemy plans to defend a city. The commander uses reconnaissance information to exploit the urban battlespace and achieve a significant tactical advantage. He can then isolate the enemy by massing combat power at decisive points, and by passing or conducting economy-of-force operations in nondecisive areas.

d. **Interact with Civilians**. Urban operations have an additional factor within the planning considerations of mission, enemy, terrain (and weather), troops, time available, and civilian considerations (METT-TC considerations). The reconnaissance platoon assists the commander in leveraging the local civil considerations. The commander must remember his responsibilities to civilians at all times. In this age of modern media, this is an extremely important factor. The reconnaissance platoon members have several responsibilities when dealing with the civilian population. They conduct reconnaissance to limit the collateral damage resulting from tactical operations. They can locate

noncombatants who have sought refuge in the urban area and identify facilities that sustain them. Reconnaissance elements can also determine whether civilians in an urban area pose a threat to friendly forces.

9-17. COMMAND, CONTROL, AND COMMUNICATIONS

Combat power is difficult to mass during urban operations because fighting is isolated. Urban operations further challenge command and control since units can so easily lose track of each other's locations. Such conditions make it necessary to decentralize the fight down to the smallest unit. These small units--reconnaissance elements and infantry squads--must communicate continuously and effectively if they are to survive and win on the urban battlefield.

a. **Direction-of-Assault Technique of Direct-Fire Planning and Control**. Having a standard method of naming and numbering structures within the objective area is critical to the reconnaissance mission. The reconnaissance elements must clearly specify the location of enemy positions, fortifications, and possible breach and entry points. This technique of fire control, when properly disseminated to all the combat support units, is an effective means of calling for and directing close-air, attack aviation, direct-fire artillery, and armored vehicle fire support. In this technique, the platoon leader assigns building numbers in a consistent pattern, relative to the planned direction of assault (Figure 9-35).

(1) The figure shows the buildings numbered consecutively in a counterclockwise manner.

(a) The sides of the buildings have color codes that are consistent throughout the objective area.

- WHITE indicates the direction-of-assault side.
- GREEN indicates the right side.
- BLACK indicates the rear side.
- RED indicates the left side.
- BLUE indicates the roof.

(b) Figure 9-35 also shows an odd-shaped building. The "four-sided" concept reduces confusion.

(c) The platoon leader can designate WHITE 1, WHITE 2, WHITE 3, and so on, from left to right, to show which wall to engage.

(2) The platoon leader labels building apertures consecutively, using rows and columns. He designates all apertures relative to the direction of assault. In the example, the lower left-hand window on the direction-of-assault side of OBJ 4 is labeled "OBJ 4, WHITE, window A1." (See Appendix G, FM 34-130 for more information about building shapes and structural labeling.)

(3) The reconnaissance element can use this same technique when producing area maps and objective sketches for the battalion. A detailed map consisting of streets, alleys, roadways, and buildings, each one individually labeled, along with additional structural sketches would greatly enhance missions planning.

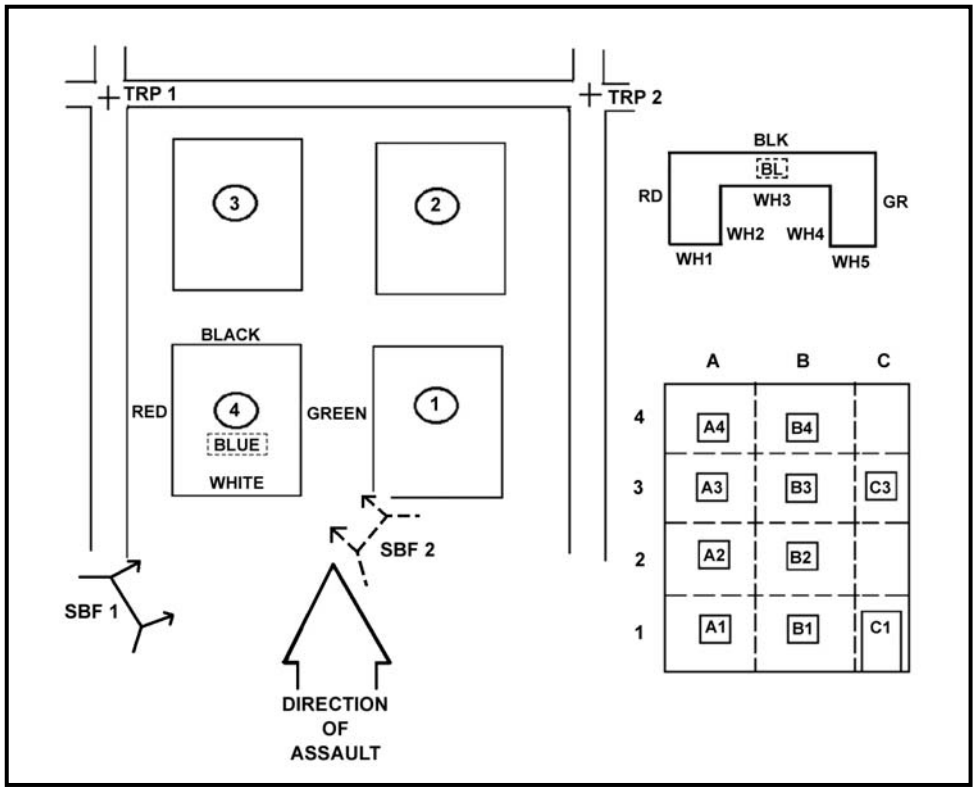


Figure 9-35. Direction-of-assault technique of direct-fire planning and control.

b. **Visual Signals**. Visual signals are the most effective means of communications within small units during combat operations. Targets can be identified with tracer fire, grenade launcher rounds, smoke grenades, VS-17 panels, or arm-and-hand signals. Visual signals can trigger specific actions. They can indicate when soldiers should initiate, lift, or shift fires; move forward to the next position; or pop smoke.

c. **FM Radio and Wire**. The unit leaders can use FM radios and or landline telephones to communicate with superiors, subordinates, and adjacent units. Structural interference, as well as high-tension and telephone wires, severely degrades FM radio communications. When operating from static positions, leaders can use landlines if interference disrupts FM communications.

Section III. STABILITY AND SUPPORT

As part of the battalion task force, the light infantry reconnaissance platoon might have to perform tasks in stability and support operations that require them to modify traditional reconnaissance missions. In this situation, the platoon must but be prepared to conduct offensive or defensive reconnaissance or security missions. The platoon may also be required to conduct stability operations or support operations following the successful completion of a combat mission. A well-trained unit can quickly and effectively switch from performing a war-fighting mission to conducting a stability and support operation,

or vice versa. During stability or support operations, the platoon must stay prepared to conduct a wide range of combat or noncombat tasks. Essentially, the unit accomplishes these tasks through the execution of tactical tasks such as security patrols, roadblocks, check points, convoy escort, and food distribution.

9-18. STABILITY OPERATIONS

Stability operations apply military power to influence the political environment, facilitate diplomacy, and interrupt specified illegal activities. They include both developmental and coercive actions. Developmental actions enhance a government's willingness and ability to care for its people. Coercive actions apply carefully prescribed limited force and the threat of force to achieve objectives.

a. Units conduct stability actions to accomplish one or more of the following:
   - Deny or hinder aggression.
   - Reassure allies, friendly governments, and agencies.
   - Support a weak or failing government.
   - Stabilize a restless population.
   - Maintain and restore order.
   - Ensure adherence to agreements and policies.

b. Reconnaissance platoons normally employ TTP in UO similar to the TTP they use for combat R&S missions. These TTP help them accomplish the actions just described. The ROE comprise the main distinguishing characteristic between UO and combat R&S missions. (Table 9-1 shows examples of tactical tasks in UO.)

TYPE OF OPERATION	TACTICAL TASKS
Peace	• Move tactically
	• Conduct a route reconnaissance
	• Conduct an area reconnaissance.
	• Conduct subterranean reconnaissance operations.
	• Establish static security positions in an urban area.
	• Perform surveillance from an OP.
	• Maintain communications in an urban area.
	• Conduct resupply operations.
	• Treat and evacuate casualties.
Antiterrorism	• Move tactically in urban area.
	• Conduct an area reconnaissance.
	• Conduct a route reconnaissance.
	• Establish a static security position in an urban area.
	• Perform surveillance from an OP.
	• Maintain communications in an urban area.

Table 9-1. Examples of tactical tasks for stability operations.

TYPE OF OPERATION	TACTICAL TASKS
Noncombatant Extraction	• Infiltrate an urban area.
	• Move tactically in urban area.
	• Conduct an area reconnaissance.
	• Conduct a route reconnaissance.
	• Establish a static security position in an urban area.
	• Perform surveillance from an OP.
	• Maintain communications in an urban area.
Arms Control	• Conduct an area reconnaissance.
	• Conduct a route reconnaissance.
	• Establish a static security position in an urban area.
	• Perform surveillance from an OP.
	• Assist and monitor inspection of arms.
	• Maintain communications in an urban area.
Support to Counterinsurgencies	• Conduct an area reconnaissance.
	• Conduct a route reconnaissance.
	• Establish a static security position in an urban area.
	• Perform surveillance from an OP.
	• Maintain communications in an urban area.
Show Of Force	• Move tactically.
	• Demonstrate capabilities.
	• Maintain communications in an urban area.
	• Conduct training exercises.
Civil Disturbance	• Maintain communications in an urban area.
	• Conduct patrols.
	• Handle noncombatants and detained personnel.
	• Employ quick reaction force.

Table 9-1. Examples of tactical tasks for stability operations (continued).

9-19. SUPPORT OPERATIONS

The overarching purpose of support operations is to meet the immediate needs of designated groups for a limited time, until civil authorities can accomplish these tasks without Army assistance. Battalions conduct support operations to save or protect lives, reduce suffering, recover essential infrastructure, improve quality of life, and restore situations to normal. Due to the nature of humanitarian and environmental assistance, the reconnaissance platoon can expect to interact with other units and agencies. This can include engineers, MPs, and nongovernmental organizations (NGOs). Support actions rely on a partnership with other government and nongovernmental agencies. The platoon must form liaisons with these agencies and with local governments. However, regardless of the positive relationships built, force protection remains top priority. (Table 9-2, page 9-44, shows typical tasks associated with each type of support operation.)

TYPE OF OPERATION	TASKS
Humanitarian Assistance	• Provide labor for relief efforts.
	• Conduct search and rescue actions.
	• Conduct security patrols.
Environmental Assistance	• Provide labor for relief efforts.
	• Establish communications.
	• Distribute water.
	• Remove debris.
	• Conduct security patrols.

Table 9-2. Examples of tasks for support operations.

APPENDIX A
LIMITED VISIBILITY OPERATIONS

The reconnaissance platoon must be able to operate under limited visibility conditions. This appendix discusses *the equipment and techniques used to operate in darkness, smoke, dust, fog heavy rain, or heavy snow. Limited visibility can result in decreased target acquisition capability, difficulty in distinguishing friendly from enemy units, difficulty in controlling movement, and reduced weapon accuracy.*

A-1. LIMITED VISIBILITY OPERATIONS

In addition to normal planning, limited visibility operations require special emphasis on the following:

- Simple tactical plans while maintaining the necessary level of detail.
- Plans for the potential use of illumination and smoke.
- Surveillance with night vision and infrared devices.

In selecting a means to employ illumination or smoke, leaders must determine the type of assets that are available to include capabilities and limitations. They plan for more than one means since enemy action, changes in weather, other missions, or logistics constraints might prevent the use of any one type.

A-2. NIGHT VISION DEVICES

Night vision devices (Table A-1) enhance observation during night operations. The level of enhancement depends on the type of night vision device used and the visibility conditions. For example, image intensification devices dominate the battlefield and provide the best results under clear air and good ambient light conditions. Image intensification devices are defeated by bad weather, darkness, and battlefield obscurants. When available, thermal imagery devices are employed during conditions that defeat image intensifiers and penetrate camouflage. Remote sensors are employed in dead space or in situations of long distances. Night vision devices aid surveillance/target engagement when darkness, vegetation, weather, camouflage, or obscurants limit natural vision, but the degree of assistance depends on the technology (image intensification or thermal imagery). Thermal imagery devices should be employed whenever possible to provide the best surveillance/engagement capability.

DEVICE	CAPABILITIES	CHARACTERISTICS	ADVANTAGES AND DISADVANTAGES
AN/PVS-2 NV Individual Weapon	300 to 400 meters	Weight 6 pounds. 3.6X magnification. FOV 10.4 degrees.	(See note)
AN/TVS-2 NV Sight, Crew-Served Weapon	800 meters starlight 1,000 meters moonlight	Weight 16 pounds. 6.5X magnification. FOV 6 degrees.	(See note)
AN/TVS-4 NV	1,200 to 2,000 meters	Weight 34 pounds. 7X magnification. FOV 9 degrees.	(See note)
AN/PVS-4 Night Vision Sight, individual Weapon	400 meters starlight, 600 meters moonlight	Weight 3.9 pounds. 3.8X magnification. FOV 15 degrees.	(See note)
AN/TVS-5 Night Vision Sight, Crew-Served Weapon	1,000 meters starlight, 1,200 meters moonlight	Weight 7.5 pounds. 6.5X magnification. FOV 9 degrees.	(See note)
AN/PVS-7 NVG	75 meters starlight, 150 meters moonlight	Weight 1.9 pounds. 1X magnification. FOV 40 degrees.	(See note)
AN/PVS-7 NVG	150 meters starlight, 300 meters moonlight	Weight 1.5 pounds. FOV 40 degrees.	(See note)
AN/TAS-5 Thermal Dragon Sight	1,200 meters	Weight 22 pounds.	Penetrates all conditions of limited visibility and light foliage. Has short battery and coolant bottle life.
AN/UAS-12 Thermal TOW Sight	3,000 meters	Weight 18.7 pounds. 12X magnification.	Same as AN/TAS-5
NOTE: This night vision device performs poorly in dark, obscured, or adverse weather conditions. Defeated by bright light (for example, street lights or headlights). Eye fatigue occurs after 3 to 5 hours.			

Table A-1. Night vision devices.

DEVICE	CAPABILITIES	CHARACTERISTICS	ADVANTAGES AND DISADVANTAGES
AN/UAS-11 Thermal Night Observation Device	3,000 meters	Weight 58.4 pounds with tripod. 9X magnification.	Same as AN/TAS-5.
Binoculars	Intensifies natural light	7 X 50 power or 6 X 30 power.	Requires some type of visible light.
AN/PAQ-4 Infrared Aiming Light	150 meters	Weight .9 pound. Used with AN/PVS-5 or PVS-7. Mounts on M16.	Detectable. Permits aimed fire during darkness.
AN/PAS-7 Hand-Held Thermal Viewer	Detection range vehicles—1,000 meters, personnel—400 meters	Weight 10.8 pounds. 2.5X magnification.	Penetrates all conditions of limited visibility and light foliage.
AN/PPS-5B Radar	Range, 50 meters minimum maximum, personnel—6,000 meters, vehicles—10,000 meters	Weight 112 pounds.	Detectable. Degraded by heavy rain, snow, dense foliage, and high winds. Line of sight. Has a 50-foot remote capability. Difficult to man-pack.
AN/PPS-15A Radar, very short range	Minimum range 50 meters, maximum personnel—1,500 meters, maximum vehicles—3,000 meters	Weight 18 pounds. Audible and visual alarm.	Detectable. Can be operated and transported by one man. Degraded by heavy rain, snow, dense foliage, and high winds. Reduced effectiveness during wind-blown rain. Line of sight. Has a 30-foot remote capability.
Platoon Early Warning System (PEWS)	Detects target 15 meters from sensor. Two types of sensors in each set distinguish personnel or vehicles. Covers 250-meter front. Can be placed up to 1,500 meters from platoon.	Weight 13 pounds. Nine ground sensors. Sensors relay to monitor through wire or radio connection.	When connected by wire, is not detectable. Ease of operation. Not affected by climatic conditions. Animals can interfere with sensors.

Table A-1. Night vision devices (continued).

A-3. EQUIPMENT EMPLOYMENT

The types of equipment that can be used during limited visibility and the factors to consider when employing them are discussed in this paragraph.

a. **Binoculars.** Binoculars are most effective in clear air. During reduced visibility, however, they are better than the unaided eye.

b. **Remotely Employed Sensors.** REMS, such as the PEWS, are critical to effective security in limited visibility. They maybe employed to monitor avenues of approach, possible assembly areas, DZs, LZs, obstacles, and dead space forward of or between OPs. REMS have a limited range; therefore, careful analysis of where to position sensors is most important. When they are positioned parallel to the avenue of approach, REMSs can detect the direction, rate of march, composition, and size of a force passing the sensors.

c. **Thermal Imagery Devices.** Thermal imagery devices lose some effectiveness during heavy rain, dense fog, or smoke. Therefore, they must be integrated with other devices to provide effective detection. Thermal imagery devices are affected by temperature gradients between the target and the target background.

d. **Image Intensification Devices.** The range of image intensification devices depends on surrounding light levels. Low-light levels, rain, fog, smoke, and dust reduce their effectiveness. Low-light levels during periods of otherwise clear air can be overcome by illuminating with invisible light and by using image intensifiers. Infrared light provides enough light to allow the image intensifiers to be effective. However, looking directly at a visible light source causes the device to shut off. Operators of image intensification devices develop eye fatigue and lose night vision.

e. **Ground Surveillance Radar.** Radar energy produced by the GSR penetrates light camouflage, light foliage, smoke, haze, light rain and snow, and darkness. It cannot penetrate dense undergrowth, trees, or heavy foliage. However, high winds can make the radar unusable. Heavy rain or snow restricts radar detection abilities. However, a well-trained operator can lessen these effects. Radar sets have only a line-of-sight capability. Radars are effective during good visibility as well as bad. Their use should be planned for all operations—not just night operations or when expecting smoke. Radar can be used—

(1) To search avenues of approach, possible enemy attack positions, assembly areas, or other sectors. It can be used continuously to determine location, size, and nature of enemy activity.

(2) To monitor point targets such as bridges, defiles, or road junctions. It can be used to determine quantity, type, direction, and rate of target movement through the point.

(3) To extend a patrol's observation abilities by enabling the patrol to survey distant points or areas of special interest.

(4) To provide warning of enemy activity near friendly positions or routes.

(5) To detect partly obscured targets.

(6) To aid in controlling movement during limited visibility by monitoring course headings or vectoring.

(7) To increase the effectiveness of fire support by correctly locating targets. It can also be used to survey target areas at once after fires are lifted to detect enemy activity and to determine the effectiveness of fire.

(8) To detect enemy radar.

(9) To limit the enemy's ability to detect radars, mask the emitter. Terrain is used to mask the emitter, if possible. The radar is placed in a reverse-slope position with its sector off to the flank(s). Radar that is left ON is easier to detect. Use can be increased by the flicker technique (alternately turned ON and OFF) to help avoid enemy detection.

Normally, radar is located on dominant terrain. A radar site and an OP can be collocated, but soldiers who operate the radar should not be detailed as ground observers except in emergencies. The radar is dug in and camouflaged. The platoon leader (or S2) selects the general location for the radar site. The ground surveillance section leader or team leader chooses the site within the given location. The team's senior radar operator prepares radar surveillance cards. One copy of this card is forwarded to the S2 for use in preparing or modifying his surveillance plan.

A-4. DEVICE INTEGRATION

The reconnaissance platoon leader plans the use of NVDs and surveillance devices to obtain the best coverage of his area of operations and to make best use of the abilities of the various devices (Figure A-1, page A-6). A typical mix might include REMS to cover out-of-sight objectives and dead space, night vision sights for close range, radar for long-range line of sight, and thermal imagery to penetrate smoke and for use in low-light conditions.

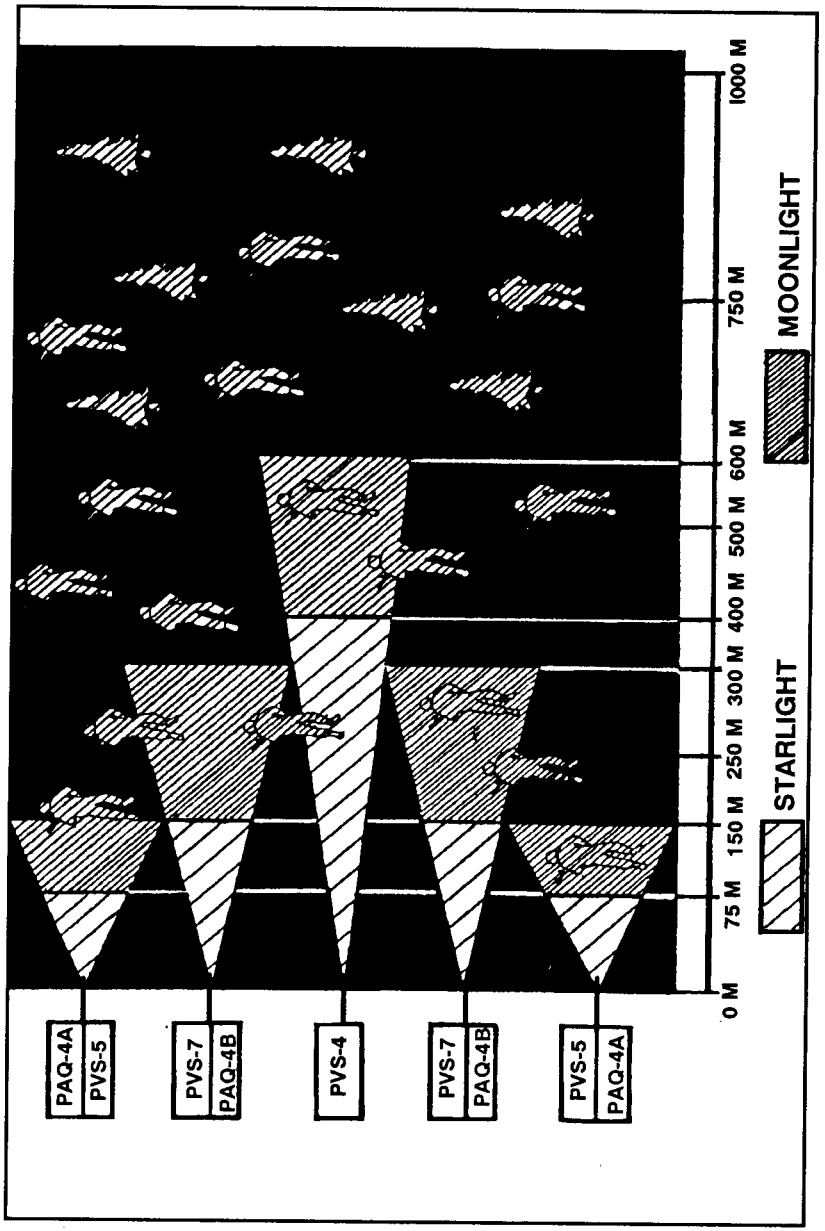


Figure A-1. Device integration.

A-5. ENEMY NIGHT VISION AND SURVEILLANCE DEVICES

Soldiers avoid detection by the enemy by moving stealthily. Defensive measures include cover and concealment, use of appropriate camouflage devices and methods, concealment of actions with smoke, and thermal and visual decoys.

A-6. BATTLEFIELD ILLUMINATION

When night vision devices are not available, artificial light is the simplest way to operate on a battlefield during darkness. The intent is to illuminate or silhouette the enemy force without illuminating friendly elements (Table A-2). However, the illuminating force might be adversely affected by its own light source. Platoon leaders must know the characteristics of available artificial illumination systems. They must also know how they are influenced by darkness, weather, and terrain. The platoon leader must exercise positive control over the use of various illumination means, since illumination in one area might have an unfavorable effect on elements elsewhere. Approval is required from the battalion before illumination can be used. Artificial light is divided into two categories: visible and invisible light.

a. **Visible Light.** Visible light requires no special equipment other than the light source itself. It is used to continue operations begun during daylight, when troops are untrained, or to offset an enemy advantage in NVDs. It is the simplest method of operating during darkness. The disadvantage of using visible light is that it permits the enemy to see the friendly force.

Device/System	Approximate Diameter of Usable Range of Illumination (meters)	Approximate Period of Illumination (seconds)
White Star Parachute	450	36
Illuminating Grenade	200	25
Trip Flare	300	55
40-mm White Star Parachute	150	15
60-mm Mortar	800	25
81-mm Mortar	1,100	60
107-mm Mortar	1,500	90
120-mm Mortar		
105-mm Howitzer	1,000	60
155-mm Howitzer	2,000	120
Air Force Drop Flare	1,500	180
Naval Gunfire, 5-inch	350 to 550	45 to 52

Table A-2. Available light source.

b. **Invisible Light.** Invisible light comes from a near-infrared source, ultraviolet light, or pink light filter; it is normally impossible to see this light with the unaided eye. Although it is visible to NVDs, invisible light has greater security than visible light, because a device is required to detect it.

A-7. EMPLOYMENT CONSIDERATIONS FOR ARTIFICIAL LIGHT SOURCES

Various considerations govern the use of artificial light sources.

a. **Ground Flares.** Ground flares are mainly defensive, are good for early warning, and can be detonated remotely by pull-pin or trigger-release devices. Ground flares are not suitable for continuous illumination.

WARNING

Ground flares are likely to start fires.

b. **Illuminating Shells (Parachute-Supported Flares).** After the parachute opens, windspeed, direction, and the amount of obscurant determine what ground area is lighted. Shells are normally set to detonate at a height of burst that allows the flare to burn out just before it reaches the ground. Drifting flares can illuminate friendly forces; therefore, the detonation point must be adjusted either by offsetting it or lowering the height of burst. If grass or brush fire is a hazard, the height of burst is not lowered. Strong winds require that the rate of fire be increased for continuous illumination. Fog, dust, smoke, and falling snow decrease the intensity of the illumination. Therefore, low-airburst shells can be used as navigational aids even though they provide little illumination.

WARNING

Illumination shells should not be detonated over or to the rear of friendly elements. This may silhouette friendly troops.

A-8. SMOKE OPERATIONS

Smoke is used to blind the enemy, break contact with the enemy, to signal, or to deceive.

a. **Obscuration Smoke.** Obscuration smoke is placed on or near enemy positions to interfere with observation and fire. It is usually delivered by indirect fire such as artillery or mortars. Use of obscuration smoke on the enemy could cause him to reduce speed, to change direction, to prematurely deploy, or to increase radio transmissions.

b. **Screening Smoke.** Screening smoke is intended to conceal friendly forces and to help break contact with the enemy.

c. **Marking and Signaling Smoke.** Marking and signaling smoke is used to mark reference points, targets, or positions. Colored or WP smoke is usually used.

d. **Deceptive Smoke.** Deceptive smoke is used in coordination with other actions to create the illusion that a tactically major event is occurring to confuse or mislead the enemy. It is used with other deceptive measures such as electronic deception.

A-9. SMOKE EFFECTS

Smoke can affect both the psychological and physiological aspects of soldiers' activities. Therefore, it can also affect combat operations.

a. **Psychological Effects.** Screening smoke near friendly positions to reduce enemy observation can help maintain morale when soldiers are aware of its purpose. However, soldiers operating in smoke can develop fear or anxiety due to the lack of visibility to detect the enemy, to see adjacent units, or to distinguish terrain features. This causes orientation problems. Smoke tends to isolate individuals or groups and degrades their ability to fight. Soldiers in this situation are vulnerable to deception through other sensory perceptions such as sound. Leaders at all levels can suffer these effects.

b. **Physiological Effects.** Though smoke produced by mechanical generators or munitions might not produce immediate physiological effects, extended exposure to large concentrations can produce secondary effects such as shortness of breath, inflammation of the respiratory system, dizziness, vertigo, or vomiting. Donning the protective mask limits these effects. Vertigo can be overcome by leaving the smoke area or by getting close to the ground. Chemical agents can also be delivered with smoke. The leader must analyze the risk of masking, which maybe an overreaction and cause more potential command and control problems.

A-10. OPERATIONAL FACTORS

The reconnaissance platoon may be directed by battalion to assist in smoke operations. Unless directed by battalion, the platoon uses smoke only in situations in which they must break contact. By limiting vision, smoke degrades the ability of soldiers and combat forces to maneuver, fight, and visually communicate. Furthermore, it restricts observation of surrounding terrain and of other combat elements on the battlefield. The natural tendency of a vehicle driver is to avoid entering smoke, to move out of or around it, or to slow movement upon entering.

A-11. TYPES OF SMOKE

White phosphorus and HC are the two predominant types of smoke used today.

a. **Field Artillery.** Field artillery smoke ammunition can be either WP or HC (Table A-3).

FA Delivery System	Type Round	Time to Build Effective Smoke	Average Burning Time	Wind Direction		
				Cross	Quarting	Head/Tail
155-mm	WP	1/2 min	1-1 1/2 min	100	75	50
	HC	1-1 1/2 min	4 min	350	250	75
105-mm	WP	1/2 min	1-1 1/2 min	75	60	50
	HC	1-1 1/2 min	3 min	250	175	50
				Average obscuration length (meters) per round.		

Table A-3. Artillery smoke ammunition.

b. **Mortars.** Mortars provide good initial smoke coverage due to their high rate of fire, but their small basic load limits the size and duration of the screen mortars can provide. The only type of smoke round delivered by mortars is WP (Table A-4).

Mortar Delivery System	Type Round	Time to Build Effective Smoke	Average Burning Time	Wind Direction		
				Cross	Quarting	Head/Tail
107-mm*	WP	1/2 min	1 min	200	80	40
81-mm	WP	1/2 min	1 min	100	60	40
60-mm**	WP	1/2 min	45 sec	60	30	20
*The 107-mm mortar is a better smoker than the 105-mm howitzer firing WP. **The 60-mm smoke round currently in inventory is the M302E2-max range 1,448 meters				Average obscuration length (meters) per round.		

Table A-4. Mortar smoke ammunition.

c. **Smoke Pots, Smoke Grenades, and M203 Dual-Purpose Weapons (Smoke Round).** A variety of smoke-producing items are available to the battalion through standard issue. Due to their limited ranges, these smoke producers must be employed for close obscuration requirements.

A-12. EFFECTS OF SMOKE ON ELECTRO-OPTICAL SYSTEMS

Electro-optical systems allow any targets that can be seen to be engaged by direct fire out to 3,750 meters. They also improve the ability to see and engage targets at night. The use of smoke at night is effective in defeating electromagnetic energy-producing systems, thus making it an important element in night operations.

a. Electro-optical systems normally found on the battlefield include—

- Hand-held thermal viewers.
- Wire-guided, optically-tracked, antitank missiles/nightsights.
- Laser range finders.
- Television-seeker missiles and bombs.
- Heat-seeking missiles.

b. All electro-optical systems work by radiating or receiving electro-optical energy. Smoke affects these systems by either reflecting, absorbing, scattering, or attenuating (weakening) electromagnetic energy.

A-13. TACTICAL CONTROL TECHNIQUES

To overcome the problems generated when soldiers cannot see the battlefield, the platoon leader and his subordinate leaders must employ other techniques to control their subordinates.

a. **Identification.** Recognition means include radio, infrared, and radar, and they are used with other established audible and visual signals.

b. **Movement.** Visual contact should be maintained; soldiers should maintain closer intervals. NVDs allow soldiers to retain good dispersion while maintaining visual contact. The leaders should reduce rate of movement, and establish SOPs for audible and visual signals.

c. **Navigation.** Guides should be used whenever possible.

(1) Radar or low-light sources should be used to mark boundaries.

(2) Radar, infrared beams, and landmarks should be used to maintain direction.

(3) Preplanned artillery spotting rounds can be used to help determine location and direction.

A-14. DARK ADAPTATION

Dark adaptation is the process by which the human body increases the eyes' sensitivity to low levels of light. Soldiers adapt to darkness at varying

degrees and rates. During the first 30 minutes in the dark, eye sensitivity increases about 10,000 times, but not much after that.

a. Dark adaptation is affected by exposure to bright light such as matches, flashlights, flares, or vehicle headlights. Full recovery from these exposures can take up to 45 minutes.

b. Using night vision goggles impedes adaptation. However, if a soldier adapts to the dark before donning the goggles, he gains full dark adaptation within 2 minutes when they are removed.

c. Soldiers must also know that color perception decreases at night. They may be able to distinguish light and dark colors depending on the intensity of reflected light. Visual sharpness is also reduced. Since visual sharpness at night is one-seventh of what it is during the day, soldiers can see only large, bulky objects. This means that object identification at night is based on generalized contours and outlines. Depth perception is also affected.

d. A reconnaissance platoon that is inserted by parachute must remember to adapt their eyes 20 to 30 minutes before exiting the aircraft. By doing so, the reconnaissance platoon can begin movement once consolidated.

A-15. NIGHT VISION

Darkness affects the senses of sight, hearing, and smell. Sharpening these senses requires training. Soldiers must know how their eyes function at night to best use them.

a. **Night Vision Scanning.** Dark adaptation is only the first step toward making the best use of night vision. Scanning enables soldiers to overcome many of the physiological limitations of their eyes. It can also reduce confusing visual illusions. This technique involves looking from right to left or left to right using a slow, regular scanning movement (Figure A-2). At night, soldiers must avoid looking directly at a faintly visible object when trying to confirm its presence.

b. **Use of Off-Center Vision.** The method of viewing an object using central vision is ineffective at night. This is due to the night blind spot that exists during low illumination. Soldiers must learn to use off-center vision. This method requires viewing an object by looking 10 degrees above, below, or to either side of it rather than directly at it (Figure A-3).

c. **Countering of the Bleach-Out Effect.** Even when soldiers practice off-center viewing, the image of an object bleaches out and becomes a solid tone when viewed longer than two to three seconds. By shifting the eyes from one off-center point to another, the soldier can continue to pick up the object in his peripheral field of vision.

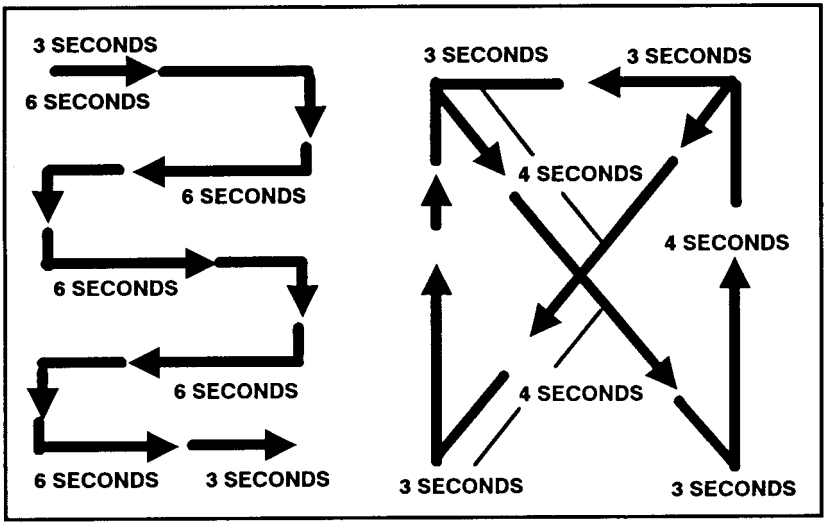


Figure A-2. Typical scanning pattern.

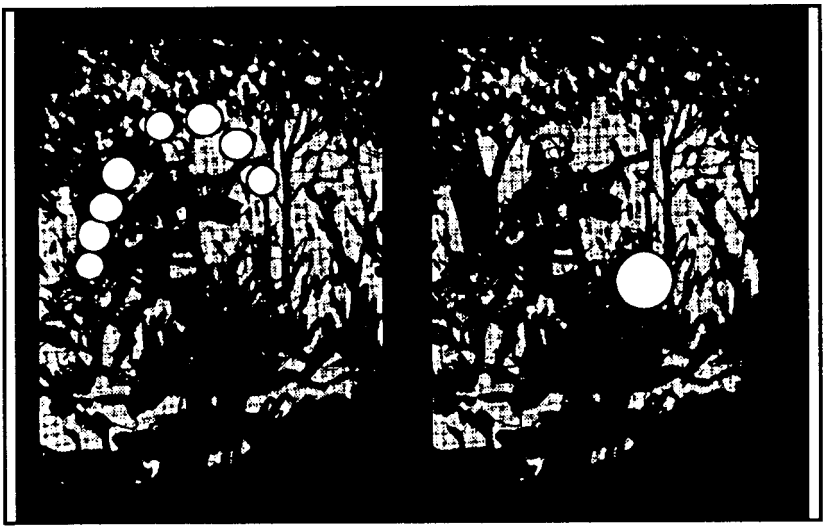


Figure A-3. Off-center viewing technique.

d. **Shape of Silhouette.** Visual sharpness is reduced at night; therefore, soldiers must recognize objects by shape or outline. Knowing the design of structures that are common to the area of operations enhances the success of the operation.

APPENDIX B

NUCLEAR, BIOLOGICAL, OR CHEMICAL ENVIRONMENT OPERATIONS

Nuclear, biological, and chemical weapons can cause casualties, destroy or disable equipment, restrict the use of terrain, and disrupt operations. They can be used separately or in combination to supplement conventional weapons. The reconnaissance platoon must be prepared to operate in an NBC-contaminated battlefield Operating in an NBC environment degrades the overall effectiveness of the reconnaissance platoon. This appendix prescribes active and passive protection measures to avoid or to reduce the effects of NBC weapons.

The platoon leader selects an NBC defense team to aid him in planning and conducting NBC operations. He also selects, as required, radiological monitoring and survey operators, chemical-agent detection operators, and decontamination teams. There is no required number of teams or operators. However, there should be at least one operator for each radiacmeter and chemical-agent detector kit.

Section I. NUCLEAR ENVIRONMENT

Given the massive destructive and disruptive effects of a nuclear blast, the reconnaissance platoon MUST train to reduce the effects of a nuclear blast on operations.

B-1. NUCLEAR WEAPONS EFFECTS

The main effects nuclear detonations produce include blast, thermal radiation, nuclear radiation, and electromagnetic pulse. The danger from each of these effects depends on the type of weapon and its explosive yield, the height of the burst, the distance from the detonation, and the hardness of the target.

a. **Blast.** Immediately after a nuclear detonation, a high-pressure shock wave develops. It travels away from the point of detonation in all directions at the speed of sound. This shock wave causes most of the destruction created by a nuclear detonation.

(1) Strong winds caused by the passage of the shock wave propel objects such as tree limbs and debris through the air, turning them into destructive missiles.

(2) Exposed soldiers and structures are vulnerable to blast effects. Personnel inside structures can be hurt by the collapse of the structures. Personnel outside can be hurt by flying debris.

b. **Thermal Radiation.** Intense heat and extremely bright light are formed within seconds of a nuclear detonation.

(1) ***Heat.*** The intense heat starts fires in buildings and woods. Such fires can spread quickly due to the burning debris scattered by the blast. The heat can also burn exposed skin.

(2) ***Light.*** The light produced by the detonation can cause temporary or permanent blindness. Temporary blindness, called dazzle, from a daylight detonation can last 5 to 10 minutes. At night, the loss of vision lasts longer because the pupils have enlarged to adapt to the darkness. However, recovery should be complete in 15 minutes. Light can injure eyes permanently if it causes burns within the eye itself. This is likely to occur to those soldiers who are looking at the fireball at the instant of detonation.

c. **Nuclear Radiation.** A nuclear detonation produces two types of nuclear radiation—initial and residual. Both types can injure or kill soldiers.

(1) ***Initial.*** Initial is invisible radiation emitted within the first minute after detonation. It travels at the speed of light and can damage human tissues and blood-forming cells. Since initial nuclear radiation travels so fast, the only way to be protected from it is to be in a protected position before the detonation.

(2) ***Residual.*** Residual is radiation that lasts after the first minute. It consists mostly of neutron-induced radiation and fallout.

(a) Neutron-induced radiation is produced by the neutrons that were made radioactive by the explosion. It exists only on the earth's surface near the point of detonation. The intensity and extent of this radiation depends on the type of soil at the point of detonation, the height of the burst, and the type and yield of the weapon. The only significant source of residual radiation from an airburst weapon is neutron-induced radiation in the soil in a circular pattern beneath the point of detonation.

(b) Fallout is produced when material from the earth is drawn into the fireball, vaporized, and combined with radioactive material to form radioactive particles that fall back to earth. The larger particles fall back right away near the point of detonation. The smaller particles are carried by the winds until they gradually settle to the earth's surface. The area contaminated by fallout can be small, or it can extend over thousands of square kilometers. The radiation dose rate of these areas vary from an insignificant level to a dangerous one.

d. **Electromagnetic Pulse.** Electromagnetic pulse is a massive surge of electrical power, similar to a strong radio signal. It occurs within seconds of a nuclear detonation and is transmitted through the air in all directions from the point of detonation. EMP can damage electrical

components in equipment (especially solid-state, such as radios, radars, computers, and vehicles) and weapon systems (TOWs and Dragons). However, it does not present a physical hazard to soldiers.

B-2. NUCLEAR BURSTS

The different types of nuclear bursts are airbursts, surface bursts, and subsurface bursts.

a. **Airburst.** An airburst is a nuclear detonation above the ground that creates a fireball and does not touch the earth's surface. Fallout or radioactive material from an airburst has no military significance unless rain or snow falls through the radioactive cloud and brings the material to earth. Neutron-induced radiation is the major radiation hazard.

b. **Surface Burst.** A surface burst is a nuclear detonation that occurs at such a height that the fireball touches the surface of the earth. Blast, thermal radiation, and initial nuclear radiation are not as widespread as from an airburst. Induced radiation is present, but it is masked by fallout. The fallout produced by a surface burst is a dangerous hazard because it can cover a large area with high levels of radioactivity.

c. **Subsurface Burst.** A subsurface burst is a nuclear detonation that occurs beneath the surface of the earth. If the fireball of this type burst breaks through the earth's surface, it produces fallout. Thermal radiation is not a significant hazard as it is absorbed by the soil. Blast effects are also reduced, but shock waves passing through the ground or water extend for some distance. Residual radiation occurs in and around the crater.

B-3. NUCLEAR HAZARD WARNING

To warn the reconnaissance platoon of a friendly nuclear detonation, the battalion issues a warning message. The format for this warning is prescribed by SOP and should contain a proword indicating that the message is a nuclear strike warning. It also gives instruction on what protective measures to take, or gives the order to evacuate the area. The warning indicates the expected time and general location of the detonation. Once the warning is received by the platoon, the platoon leader disseminates it through the platoon using the chain of command. He also specifies protective measures.

B-4. NUCLEAR HAZARD ALARM

The platoon SOP prescribes a nuclear hazard alarm and also a signal to indicate that the hazard is no longer present. The standard nuclear hazard alarm is the vocal alarm FALLOUT. The standard signal for indicating that the hazard is no longer present is the vocal signal ALL CLEAR. As soon as a nuclear hazard is detected, the nuclear hazard alarm is given. It

can be given by any soldier detecting the hazard. Once the alarm has been initiated, it must be passed throughout the platoon as quickly as possible. When the hazard no longer exists, the ALL CLEAR signal is given. This is normally initiated by the platoon leader and then passed throughout the platoon as quickly as possible.

B-5. PROTECTION

The best protection from the immediate effects of a nuclear detonation is cover infighting positions, culverts, ditches, or behind hills. Soldiers face away from the explosion, close their eyes, and coverall exposed skin. They stay down until the blast wave passes and until the debris stops falling. Then, they check for (and treat) injuries, check damage to equipment and supplies, and prepare to continue the mission.

a. Radiation is the only nuclear effect that remains after a nuclear detonation. It can last for days or even years, and it can cover a large area. Since radiation cannot be detected by human senses, radiac equipment must be used to detect its presence. The procedures for radiological monitoring, surveying, and reporting must be prescribed by SOP. (For more information, see FM 3-3.)

b. If the reconnaissance platoon stays in a fallout area, all soldiers stay in positions that have overhead cover if possible. They cover their mouths and noses with scarves or handkerchiefs to prevent from inhaling radioactive particles. The teams continually monitor the radiation level in the area.

c. Once the fallout has passed, soldiers brush the radioactive dust off their clothing and scrape the dirt from the area around them. Radiacmeter operators continue to monitor and report radiation levels. All soldiers wash themselves and their equipment when possible. The time the platoon stays in a contaminated area depends on the amount of radiation that the soldiers have been exposed to, the intensity of the radiation, the protection available, and the needs of the mission.

B-6. NBC SURVEY

Radiological surveys are determined by the degree and extent of radiological contamination in a specific area. They are usually directed by the battalion and are performed by one or more survey parties under the control of a battalion control party. The platoon may be required to survey an area or to report areas requiring survey. A ground survey party includes a monitor who operates a dose rate meter and records data, and an assistant who can be a driver, RATELO, or both. More soldiers can be included for security. Ground survey parties follow a prescribed course and report the dose rate, location, and time of reading at designated points. Readings are taken with the survey meter held 1 meter above the

ground (waist-high). In open areas, readings are taken at least 10 meters from buildings or other large structures. In built-up areas, they are taken in the center of the street or at intersections. Readings are recorded on DA Form 1971-1-R. The radiacmeter should be zeroed before each reading. When operating in a nuclear environment, the reconnaissance platoon closely monitors the amount of radiation it has already absorbed (dose) and the amount each soldier is exposed to (dose rate). The IM-93A/UD dosimeter or the AN/PDR-75 radiac set are used for dose rate. Designated operators should be trained to properly use this equipment. (For more information, refer to TM 11-6665-232-12, TM 11-6665-214-10, TM 11-6665-251-10, and TM 11-6665-236-12.)

a **IM-93A/UD Dosimeter.** The IM-93A/UD dosimeter indicates the total radiation dose received by soldiers. The meter is the size of a fountain pen and is easy to read. The platoon leader records the times and amounts of each reading. SOP determines how often to initiate readings and reports. At prescribed time intervals, the platoon leader reports readings to the battalion. The format for this report is prescribed by SOP. (For more information, see FM 3-3.)

NOTE: For military purposes, one roentgen equals one centigray. The radiation received by a soldier is measured and expressed in cGys.

b. **IM-174A/PD Radiacmeter.** The IM-174A/PD radiacmeter is used for area monitoring and survey. It measures gamma radiation in units from 0 to 500 cGys per hour.

(1) Each radiological monitoring and survey team has two operators (a primary and an alternate). These soldiers must be trained in the use and maintenance of the devices and in the techniques of radiological monitoring and survey.

(2) Radiological monitoring and survey starts on the order of the battalion or IAW the SOP. When a contaminated area is detected, the radiological monitoring and survey team marks the area with radiological contamination markers. The team also records and reports to the battalion, using the NBC 4 report, the radiation dose rates, and the time and location of each reading.

(3) The radiological monitoring and survey team conducts either periodic or continuous monitoring. During periodic monitoring, the team monitors different points within the area at least once each hour. The team conducts continuous monitoring when—

- The platoon receives a fallout warning.
- The platoon is moving.

- A nuclear detonation is reported, seen, or heard.
- Radiation above 1 cGy per hour is detected by periodic monitoring.
- Upon order of the platoon leader.

(4) The team stops continuous monitoring on order from the platoon leader or when the dose rate falls below 1 cGy per hour (except for units on the move, as they could enter a contaminated area anytime en route).

Section II. CHEMICAL OR BIOLOGICAL ENVIRONMENT

Since Threat forces have both chemical and biological weapons, the reconnaissance platoon might have to operate under active CB conditions. These weapons can be used alone or with nuclear or conventional weapons. Regardless of how these weapons are used, the platoon must be able to survive and continue its combat mission. To ensure this, the platoon must be trained to meet the NBC standards of proficiency.

B-7. CHARACTERISTICS OF CHEMICAL AGENTS

Chemical agents are used to cause casualties, degrade performance, slow maneuver, restrict terrain, and disrupt support. They can cover large areas and may be placed on a target as a vapor, liquid, or aerosol. Chemical agents can be disseminated by artillery, mortars, rockets, missiles, aircraft spray, bombs, and land mines. (See Figure B-1 for additional information on characteristics of chemical weapons.)

B-8. CHARACTERISTICS OF BIOLOGICAL AGENTS

Biological agents include pathogens (microorganisms that cause disease in man, animals, and plants) and toxins (poisonous substances produced as by-products of pathogens). These agents may be dispersed as aerosols by generators, explosives, bomblets, missiles, and aircraft. Harmful germs may also be spread by the release of infected insects, such as flies, mosquitos, fleas, and ticks.

B-9. ALARMS FOR CHEMICAL HAZARD OR ATTACK

Soldiers immediately stop breathing, mask, and give vocal or visual signals when chemical agent symptoms are displayed or when the M8A1 alarm sounds.

a. Standard alarms include the vocal signal GAS, prescribed arm-and-hand signals, automatic chemical-agent alarms, rapid and continuous beating on any metal object that produces a loud noise, a succession of short blasts on a vehicle horn or any other similar device, or a broken warning siren sound (for example, 10 seconds on, 10 seconds off). (Figure B-2, page B-8.)

Type of Agent	Symbol	Means of ID	Symptoms in Man	Effects on Man	Rate of Action	Normally Disseminated	Protection Required	Decontamination
Nerve	GA GB GD	M256, M18A2, M19 M8/M9 paper, M8A1 alarm	Difficulty breathing sweating, drooling, nausea, vomiting, convulsion, and dim vision.	Incapacitates at low concentrations; kills if inhaled or absorbed through the skin or eyes.	Very rapid by inhalation, slower through skin.	Aerosol or vapor	Protective mask and protective clothing	STB slurry; household bleach; 10% solution of lye or washing soda; DS2: steam and ammonia in confined area; hot soapy water; M258-series kit.
	V				Delayed through skin; rapid through eyes.		Protective mask and protective clothing	
Blood	AC CK	M256, M18A2 M19	Rapid breathing, convulsions, and coma.	Kills if high concentrations are inhaled.	Rapid	Aerosol or vapor	Protective mask	None needed in field.
Bluster	HD HN	M256, M18A2, M19, M8/M9 paper	No early symptoms. Searing of eyes and stinging of skin.	Blusters skin and respiratory tract; can cause temporary blindness. Some agents sting and form wheals on the skin.	Bluster delayed hours to days; eye effects more rapid. Mustard lewisite, and phosgene oxime very rapid.	Liquid or droplets	Protective mask and protective clothing	STB, DS2, household bleach, M258-searies kit. Try lye, fire; wash with soap and water.
	HL L							
	CX		Powerful irritation of eyes, nose, and skin.					

Figure B-1. Chemical-agent characteristics.

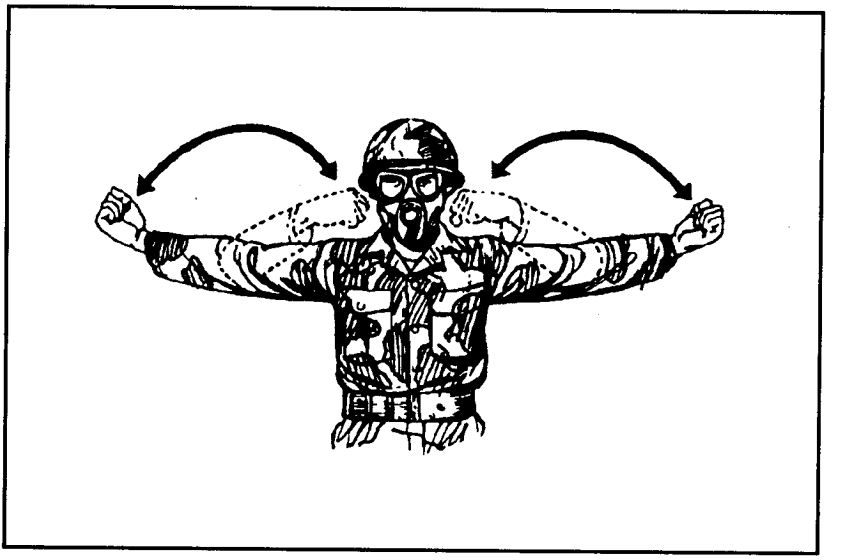


Figure B-2. Standard alarm signal.

b. The vocal ALL CLEAR signals that the danger no longer exists. It is given by the platoon leader or squad leader after prescribed unmasking procedures have been completed.

B-10. PROTECTIVE MEASURES IN CHEMICAL AND BIOLOGICAL WARFARE

A CB attack can occur without warning. Soldiers must know exactly what to do and how to do it without hesitation. Their lives depend on it.

a. **Chemical Attack.** A soldier's main protection against a chemical attack is his protective mask. The mask protects against inhaling chemical agents. If an attack is imminent or if chemicals have already been employed, soldiers should mask—

(1) When chemical alarms or detection kits signal the presence of chemical agents.

(2) When any artillery, mortar, rocket, or aircraft attack with other than HE munitions occurs on or near their position.

(3) When smoke or mist of an unknown source appears in the area.

(4) When a chemical attack is suspected for any other reason, such as enemy soldiers seen wearing protective masks and clothing, or presence of dead animals or people with no outward sign of injury.

(5) When the platoon must enter an area known to be or suspected of being contaminated by a chemical or biological agent.

(6) When, for no obvious reason, soldiers have particular symptoms.

- A runny nose.
- A feeling of choking or tightness in the chest or throat.
- Blurred vision or trouble focusing.
- Difficulty in or increased rate of breathing.

b. **Biological Attack.** Information on the enemy's use of biological agents is passed from higher to lower. The best local defense against biological warfare is strict enforcement of all preventive medicine (prescribed immunizations) and field sanitation measures and high standards of personal hygiene. Leaders must ensure that water and food resupply is obtained from approved sources.

B-11. INDIVIDUAL ACTIONS BEFORE A CHEMICAL ATTACK

If the reconnaissance platoon learns that it is subject to an imminent chemical attack or downwind vapor hazard, each soldier should take the following precautionary measures:

- Place the chemical-agent alarm into operation.
- Assume MOPP level 2, 3, or 4 (depending on the situation).
- Attach M8/M9 paper to personnel and vehicles.
- Cover as much equipment as possible.
- Ensure decontamination equipment is accessible.
- Prepare to move from the location on order.

B-12. ACTIVE AVOIDANCE MEASURES

Active avoidance measures taken by the battalion and the reconnaissance platoon are those measures that specifically avoid, control, or lessen NBC hazards.

a. Commanders at all levels need to know about contamination hazards and where uncontaminated areas are located. They can obtain this information through the NBC warning and reporting system, and through NBC reconnaissance.

(1) ***Reconnaissance.*** NBC reconnaissance seeks to locate a chemical hazard in a specified area before the battalion moves into or through the area. Any battalion element can be tasked to conduct a reconnaissance to locate chemical hazards. NBC reconnaissance techniques are similar to conventional reconnaissance techniques.

(2) ***Purpose.*** The purpose of NBC reconnaissance is to find the boundary of contamination and the routes around, or through a contaminated area. The reconnaissance platoon can determine the following:

- Chemical agents that are present.
- Type of chemical agents.

- Location of the chemical agent.
- Boundaries of the contaminated area.
- Routes through or around the contaminated area.

b. The battalion commander uses the information obtained by the reconnaissance platoon to determine the chemical agents in the area of operation. This information is helpful to the battalion staff and can affect future operations. The S3 directs the reconnaissance platoon to reconnoiter specific areas for signs of NBC contamination. To increase the level of expertise within the reconnaissance platoon, the battalion commander may attach a chemical officer or an NCO to the platoon. These individuals work directly for the reconnaissance platoon leader.

c. Once the commander designates the areas he wants checked for contamination, the reconnaissance platoon leader develops the plan. The exact route and where the contamination checks will occur are critical. The route may be used by elements of the battalion. It is important that every soldier be aware of the route and, if necessary, lead someone along the route. The reconnaissance platoon conducts contamination checks at 250-meter intervals, which are based on METT-T or directed by the chemical officer. Checks are conducted in areas where chemical agents tend to collect: low spots, small valleys, and sheltered locations. (For more information on where agents may collect, see FM 3-6.)

d. If the reconnaissance platoon detects a chemical agent, it marks the location unless ordered otherwise. Then the reconnaissance platoon moves in the opposite direction of travel until it is out of the contaminated area. It moves laterally a predetermined distance and direction. The platoon then begins to move in the original direction of travel. This procedure is followed until the reconnaissance platoon reaches the battalion boundary or finds a clean route through the contamination.

e. The method the reconnaissance platoon uses to report information depends on the urgency. If time is critical, the information is passed over the radio using the NBC 4 report format. If time is not critical or if radio assets do not permit passing the information over the radio, the information is recorded and carried back to the requestor. The DA Form 1791-2-R is used to record and transfer reconnaissance information.

f. Chemical surveys are required when the commander needs detailed information on the size of a contaminated area. Unlike radiological surveys, the intensity of chemical contamination cannot be determined. However, the prime interest is learning how large the contaminated area is and if there are clear areas or routes within the area. Time is a major factor in planning and conducting chemical surveys. Each detection test requires time. The primary concern in surveys is to determine the areas

contaminated by persistent chemical agents. Most testing is accomplished during the survey using M8 or M9 detector paper. Periodic tests are accomplished using the M256 detection kit to ensure that only the chemical agent being tested with the detection paper is present. (For more information on surveys, see FM 3-3.)

B-13. INDIVIDUAL ACTIONS AFTER A CHEMICAL ATTACK

Soldiers check for casualties, give first aid, conduct the basic skills of decontamination (personal wipe down and operator spraydown), identification or detection of the agent, send NBC 1 or NBC 4 report, request permission to move, request decontamination, and mark the area to warn friendly troops.

B-14. CONDITIONS FOR UNMASKING

The senior soldier present follows these procedures:

a. **Procedures With Detector Kit.** The M256 chemical-agent detector kit is used to test for the presence of chemical agents. This takes about 16 minutes. If no evidence of agents appears, one or two soldiers unmask for 5 minutes, then remask. They are observed for chemical-agent symptoms for 10 minutes in a shady area. (A shady area is used since light causes contraction of the pupils, which could be interpreted as a nerve-agent symptom.) If no symptoms appear, the squad or platoon contacts higher headquarters for permission to unmask. Once permission is granted, all soldiers can safely unmask.

b. **Procedures Without Detector Kit.** The following is an emergency field expedient when friendly elements have been masked for a longtime, when there are no remaining signs of chemical agent use, and when the platoon has no detector kit. One or two soldiers are selected to hold deep breaths, break the seals of their masks, and keep their eyes wide open for 15 seconds. They then clear their masks, reseal them, and wait for 10 minutes. If symptoms do not appear after 10 minutes, the same soldiers again break their seals, take two or three breaths, and clear and reseal their masks. After another 10-minute wait, if symptoms have not developed, the same soldiers unmask for 5 minutes and then remask. After 10 more minutes, if symptoms have not appeared, all soldiers can safely unmask once permission is granted from higher headquarters. They should all remain alert for the appearance of any chemical symptoms. This procedure takes about 35 minutes.

B-15. EFFECTS ON EQUIPMENT

CB agents have little affect on the mechanical operation of equipment. However, liquid chemical-agent contamination on equipment can restrict

the equipment's use until it is decontaminated. The platoon must be prepared to decontaminate its equipment.

B-16. EFFECTS ON TERRAIN

Liquid-chemical agents can restrict the use of terrain and buildings. The reconnaissance platoon does not decontaminate terrain; this is accomplished naturally by the weather. However, it can take a long time. Therefore, the platoon bypasses contaminated areas when possible. When this is not possible, the platoon must cross the contaminated area.

WARNING

BEFORE CROSSING A CONTAMINATED AREA, SOLDIERS MUST PUT ON PROTECTIVE GEAR. AFTER CROSSING A CONTAMINATED AREA, SOLDIERS MUST DECONTAMINATE THEMSELVES AND THEIR EQUIPMENT.

B-17. PROTECTIVE EQUIPMENT AND CLOTHING

A soldier's main protection against a CB attack is his protective mask. It prevents him from inhaling chemical or biological agents. (Figure B-3.)

a. **Chemical Attack.** For full protection against liquid chemical agents, soldiers must wear their protective masks and hoods, and chemical-protective overgarments (to include helmet cover), overboots, and gloves.

(1) Once chemical agents have been employed, or while the threat of a chemical attack exists, the platoon leader decides whether to keep all soldiers or only some of them masked and in chemical-protective clothing. This is called mission-oriented protective posture. When feasible, the platoon leader specifies the degree of protection before a mission. (The degree of protection may be prescribed by battalion.) Later, the platoon leader can direct that the protection be modified according to the threat, temperature, and workload.

(2) The MOPP level directed by the platoon leader determines what equipment and clothing they must wear and use, and what precautionary measures they must apply. Therefore, the commander and his subordinate leaders must know MOPP concepts. MOPP procedures are stated in FM 3-4 but should be stated in the SOP.

(3) Figure B-3 shows the requirements for protective equipment and clothing for different MOPP levels.

b. **Biological Attack.** The best defense against biological agents is strict enforcement of all preventive medical and field sanitation measures and high standards of personal hygiene. The duty uniform and gloves protect against bites from insects (such as mosquitoes and ticks) that can carry disease-causing germs. Clothing should be buttoned; trouser legs

should be tucked into boots. Covering the skin lessens the chances of biological agents entering the body through cuts and scratches. It also prevents disease-carrying insects from reaching the skin. Insect repellents and insecticides are effective against most disease-carrying insects. High standards of sanitation also improve protection against some insects.

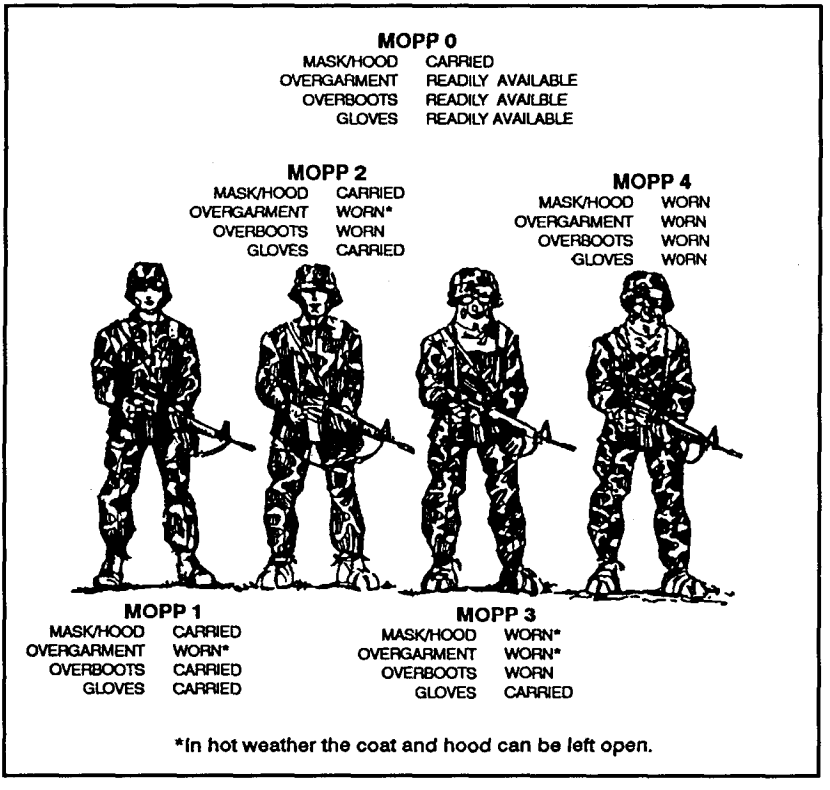


Figure B-3. Protective equipment and clothing for MOPP levels.

B-18. TREATMENT OF CHEMICAL-AGENT CASUALTIES

The casualties from a chemical attack must be treated as soon as possible to prevent further injuries or complications. This treatment includes both first-aid measures and decontamination. The symptoms and first-aid steps for chemical agents are as follows:

a. **Nerve Agents.** The symptoms of nerve-agent poisoning include runny nose, blurred vision, tightness in the chest, difficulty in breathing, drooling, nausea, twitching, and convulsions. The administration of the

Mark-I automatic injector and convulsant antidote for nerve agent is the first-aid measure for soldiers demonstrating symptoms of nerve-agent poisoning. (Refer to FM 8-285 and FM 21-11 for additional information.)

b. **Blister Agents.** The symptoms of blister-agent poisoning include redness of the skin in 4 to 6 hours and blisters in 6 to 12 hours after exposure. These symptoms can be delayed for several hours or days, depending on the type agent used. There is no first-aid treatment for blister-agent poisoning other than decontamination. If burns or blisters develop after decontamination, the soldier covers the area with sterile gauze or a clean cloth to prevent infection. The blisters should not be broken. However, if they do break, the blisters should be treated as open wounds.

c. **Blood Agents.** The symptoms of blood-agent poisoning include increased breathing rate, dull-throbbing headache, and nausea. First-aid procedures for blood-agent poisoning is to keep the casualty comfortable and evacuate to a medication treatment facility (MTF). (Refer to FM 8-285 for additional information.)

d. **Choking Agents.** The symptoms of choking-agent poisoning include coughing, choking, nausea, and headache. The first-aid treatment for choking-agent poisoning is to keep the affected soldier still, warm, and comfortable.

B-19. DECONTAMINATION OF SOLDIERS AND THEIR EQUIPMENT

All soldiers must know decontamination procedures.

a. **Chemical Agent.** Each soldier has an M258A1 or M291 decontaminating kit. There is no specific place to carry the M258A1 or M291 kit. Soldiers use the M258A1 or M291 kit to decontaminate the skin and individual equipment.

b. **Biological Agent.** Soldiers decontaminate themselves by showering with soap and hot water. Germicidal soaps are used, if available. The nails should be thoroughly cleaned and the hairy parts of the body should be scrubbed. Contaminated clothing is washed in hot, soapy water if it cannot be sent to a field laundry for decontamination. Cotton items can be boiled. Soldiers wash their contaminated equipment in hot, soapy water and allow it to air out.

c. **Equipment and Vehicles.** The reconnaissance platoon is responsible for partial decontamination of its equipment and personnel. The NBC defense company performs complete decontamination. (For more information, see FM 3-5.)

APPENDIX C
DIRECTED-ENERGY WEAPONS

This appendix discusses directed-energy weapons and gives an overview of how to defend against them. The technical characteristics of DEWs are given in the United States Army capstone manual on directed-energy weapons and in TB MED 524. This new category of weaponry is different in operation and effect from any other weapon. There is evidence of enemy use of DEWs in areas of conflict around the world.

C-1. CHARACTERISTICS

Directed-energy weapons include lasers, microwave radiation emitters, and particle beam generators. These weapons produce casualties and damage equipment by depositing energy on the target. Conventional weapons rely on the kinetic/chemical energy of a sizable projectile to defeat a target. DEWs depend upon subatomic particles or electro-magnetic waves impacting on the target at or near the speed of light.

a. In the future, DEWs will be able to damage only soft targets to include people or soft components of hard targets. Measures to prevent damage or destruction from DEWs engagement to currently fielded equipment and to soldiers are limited but are not impossible or complicated. Neither the equipment nor the soldiers' apparel have built-in passive defense mechanisms to counter the effects of DEWs. Equipment will be manufactured with built-in defenses against known DEWs, and older equipment can be refitted with protective devices.

b. For the present, the reconnaissance platoon can employ the measures discussed in this appendix to protect themselves from attack by DEWs.

C-2. LASERS

Lasers are the DEWs most likely to be used against US forces. All modern armies have increasing quantities of laser devices in their inventories. Any laser-emitting device, such as a target designator or a range finder, can be employed as a weapon if it is aimed at a type of target it can damage.

a. The most probable targets of laser weapons are optical and electro-optical systems—specifically, fire control devices such as sights and the soldiers behind the sights.

b. A laser beam entering a direct-view optical system, such as a telescope, has its power increased by the magnification of that system. Anyone who happens to be looking through the system will suffer burns to the eye(s). The severity of the burns, the permanence of the damage, and the time

required for the eye to heal itself depend on weather conditions, the intensity of the laser, the magnification of the optical device, and the duration of the eye's exposure to the laser. Eye injury ranges from temporary flash blinding and mild burns to total, permanent blindness. A soldier subjected to this type of injury can be incapacitated and unable to aim a direct-fire weapon or track with a command-guided weapon. It is anticipated that a laser weapon will fire at a target for a split second at most before laying on another target.

c. A laser beam entering a non-see-through electro-optical device, such as a night vision sight or thermal imagery device, deposits its energy in the form of heat on the sensor screens inside. If the heat is intense enough, it can burn out the screen, making the device useless. Some of the electrical circuits inside also burn out from the heat and from a sudden surge of electricity caused by the laser's energy. Any device so affected will require extensive repairs.

d. Laser weapons can also be directed against people, but that is an inefficient way to employ them. Lasers burn people, with the eyes being the most susceptible to injury. For the person to suffer eye injury, they must be looking at the laser source. Since the eye is more sensitive to light at night, laser energy entering the eye during darkness has a greater effect than it does during daylight. Some types of lasers are hazardous to the eye even though the laser cannot be seen.

e. Any uncovered glass surface (such as eyeglasses, vision blocks, or binoculars) has the potential to attract or alert an antielectro-optical weapon's target acquisition system.

C-3. DEFENSIVE AND PROTECTIVE MEASURES

Apply the following techniques to avoid detection by antielectro-optical weapon systems:

a. Use artillery, mortars, or direct-fire weapons to suppress known or suspected antielectro-optical weapons locations. Smoke rounds are good for temporarily defeating laser devices.

b. When operating from fixed or semi-fixed positions in the line of sight of known or suspected enemy locations, lessen the exposure of glass surfaces in the direction of the enemy by positioning vehicles and weapons in covered or concealed positions.

c. When the mission requires maneuver and, as a result, the possible exposure of many glass surfaces, block the line of sight between friendly forces and known or suspected enemy locations with smoke, or plan routes to lessen exposure time.

d. Sound tactics prevent friendly weapons locations from being pinpointed and targeted for attack by laser devices.

e. Devices with external glass surfaces not in use should be shielded until the device is used. Even vision blocks and headlights can alert antielectro-optical weapon target acquisition systems; cover the vision blocks as well. Tape, canvas, empty sandbags, or other materials can be used as covers.

f. When using optical or electro-optical devices to search for the enemy, use the minimum number possible to do the job and lessen exposure time. Protect the rest until they are required to fire.

g. Gunners can use the AN/TAS-4 to scan for enemy laser devices. A blooming of the image indicates the presence of a laser. Gunners should be instructed to find and avoid the threat laser device. Indirect fire should be used to neutralize the devices once they are located.

h. Tubular extensions over objective lenses lessen their chances of detection except from almost head on. They can be made from tubular ammunition packaging or other scrap materials.

i. Low-energy, antielectro-optical weapons work only if they have line of sight to their target. They are just as effective at night as during the day; however, smoke, fog, snow, and dust degrade their effectiveness. Another good countermeasure against some laser devices is to cover one-half of the optical lens with tape or some other type of cover. There might be some degradation of viewing however, the benefits in reducing your vulnerability could be great.

j. Soldiers should be aware of the potential hazard from laser devices in the US Army inventory. Laser range finders are the ones most likely to be found near friendly soldiers.

k. Laser range finders are used on the M551A1, M60A3, and M1 tanks. They are also used in the artillery units.

- Lightweight target designator—used by artillery FISTs for airborne, ranger, and special forces units.
- Ground-locating laser designator in either the ground-mounted or vehicle-mounted mode—used by FISTs for mechanized, infantry, and air assault units.
- GVS-5, binocular-type laser range finder—used by all FIST members.
- Laser designator—used by some attack helicopters to direct the Hellfire and Copperhead systems.
- Laser devices—used by artillery survey parties for surveying in gun positions.
- GVS-5 laser range finders—used by reconnaissance platoons.

l. Air Force and Navy aircraft can also carry laser target designators for aiming precision-guided munitions. The F-4, F-7, F-111, F-105, F-16, and A-6 aircraft can be equipped with these designators.

m. Operators of laser firing devices are given extensive training in their safe employment. The devices themselves cannot be activated without conscious, deliberate action on the part of the operator. While the possibility of an accident is extremely remote, it can happen. A victim might suddenly and unexpectedly move directly into the path of a laser beam and look directly at it, or a laser beam might reflect off a shiny surface and strike a victim in the eyes.

(1) To preclude such accidents, operators of laser firing devices must be kept constantly aware of friendly soldier locations, and they must positively identify targets before lasing them. Lasers should not be fired at reflective surfaces, and the warning "lasing" should be given before activating the laser.

(2) Conversely, commanders of soldiers operating in areas near friendly lasing must ensure that the commanders of laser-operating forces are always aware of the locations of friendly soldiers. Soldiers should be be told if there are friendly lasers in their area and should be told where the lasers are at, if possible. They should be warned not to look in the direction of laser-emitting devices unless specifically told it is safe to do so. Whenever possible, soldiers should wear laser-protective goggles matched to the wave length of the friendly lasers. Laser-protective goggles are available through normal supply channels.

C-4. DIRECTED ELECTROMAGNETIC PULSE

Electromagnetic pulse is electromagnetic radiation that has a frequency ranging from 10 MHz to 4 GHz.

a. Electromagnetic pulses can come from nuclear detonations (non-directed EMP), from detonation of conventional explosives coupled with focusing electromechanical devices, or from electrically powered EMP generators on or above the ground.

b. Electromagnetic pulses can damage or destroy sensitive electronic components, such as microchips, coils, and fuses by overloading them with electrical current. Any equipment containing electronic components is subject to damage or destruction from EMP attack. FM radios are susceptible to EMP damage. The amount of damage to equipment depends on its distance from the source of the pulse.

c. Electromagnetic pulses can be projected into target areas from long ranges. They can enter a targeted device through any opening and attack sensitive components inside even if the device is disconnected or turned off. For example, it can enter a radio set through the louvers over

the cooling fans and destroy circuitry inside, making the radio useless. It can also enter through unshielded cables for antennas, power lines, and so on.

d. An EMP attack lasts only for a split second and affects a large area. Protecting equipment from its attack is difficult. The only reliable way to do it is to encase susceptible equipment in some type of heavy gage metal shielding, or to surround it with special metal screening. Burying or covering it with sandbags or other nonmetallic materials does not provide enough protection. Terrain masking is ineffective because EMP follows the curve of the earth.

e. When operated from combat vehicles, sensitive equipment should be disconnected if not needed and moved to the center of the vehicle. Smaller pieces of equipment should be placed in empty ammunition cans. Hatch covers should stay closed unless someone enters or exits the vehicle. By doing this, the equipment is less susceptible to destruction, and the rest is available for use after the attack.

f. Known or suspected locatiom of enemy ground-based EMP-generating weapons should be attacked by direct or indirect fire weapons within range.

C-5. TRAINING

Commanders at all levels mentally condition their subordinates to face the threat of DEWs. DEWs appear at first glance to have devastating effects on men and equipment; effective defense against them seems nearly impossible. However, a basic understanding of what they are and how they work reveals them to be less awful than first supposed.

a. Laser, microwave, and EMP weapons damage their targets by attacking their soft electronic components. Their terminal effects are less violent and destructive than those of conventional kinetic or chemical energy munitions. Even though they render their targets just as combat-ineffective, they do not have the blast, fire, and fragmentation effects of conventional munitions. The dangers to people are less from laser, microwave, or EMP attacks than from conventional attacks.

b. While the thought of eye injuries from lasers is repulsive to the soldier, the extent of injury and the recovery time for a laser injury is less than that for a gunshot wound. Also, permanent blindness in the effected eye is not a certainty, and occurs in only a small percentage of incidents.

c. The advantages of particle beam weapons (if they are used) are their flat trajectory, long range, and large magazine capacity. Other than these advantages, they are similar to conventional tank cannons in employment and effect. Whether a vehicle is struck by a HEAT round, an APDS round, or a particle beam hardly matters; the effect on the vehicle

and its occupants is about the same in all cases. There is no countermeasure against a particle beam weapon system.

d. Until equipment is factory-hardened against DEWs, the defensive techniques discussed in this appendix can provide some protection from directed-energy attack. DEWs that can injure people are line-of-sight systems; standard defensive techniques employed against any direct fire weapon provides equal or better protection against personal injury from DEWS than from conventional weapons, since DEWs have no bursting radius.

C-6. LASER COUNTERMEASURE SYSTEM

Each squad is issued one LCMS. The LCMS is designed to disrupt enemy optical and electro-optical sighting devices. The LCMS is capable of detecting, locating, suppressing, illuminating, and designating enemy optical and electro-optical devices. (Figure C-1.)

- Detect—All optics from extended ranges.
- Locate—Optics/electro-optical devices allowing the gunner to track and suppress.
- Suppress—Temporarily flashblind eyes using direct-view optics, temporarily bloom image intensifiers, temporarily flashblind unprotected, unaided eyes.
- Illuminate—At 1,000 meters, the LCMS can illuminate a 30-meter target.
- Designate—Target area, cuing and directing fires from other weapons.

a. The platoon leader uses the LCMS to assist in identifying targets during reconnaissance and security operations. Once targets are identified, the LCMS is used to enhance the combat power of the maneuver force by directing other direct and indirect fires to destroy targets. The target handoff must be coordinated and specified in the operation order. This ensures the LCMS is not used before the availability of hand-off assets. For example, if mortars are going to be used to destroy identified targets, the squad will not activate the LCMS until the mortars are ready to fire. If activated too early, the enemy takes measures to counter the affects desired by the mortars. The LCMS can be used in either the active or passive mode. When used in the passive mode, targets can be identified without the enemy's knowledge. In the active mode, the enemy is aware that he is being targeted.

b. The LCMS gives the platoon the ability to detect targets at greater ranges. It should be used in conjunction with other detection devices. The mission of the platoon does not change with the addition of LCMS.

The ability to provide tactical information is increased, but the platoon must use the tactical skills that places them in a position to use the LCMS. For safety, the LCMS should never be used to identify friendly forces.

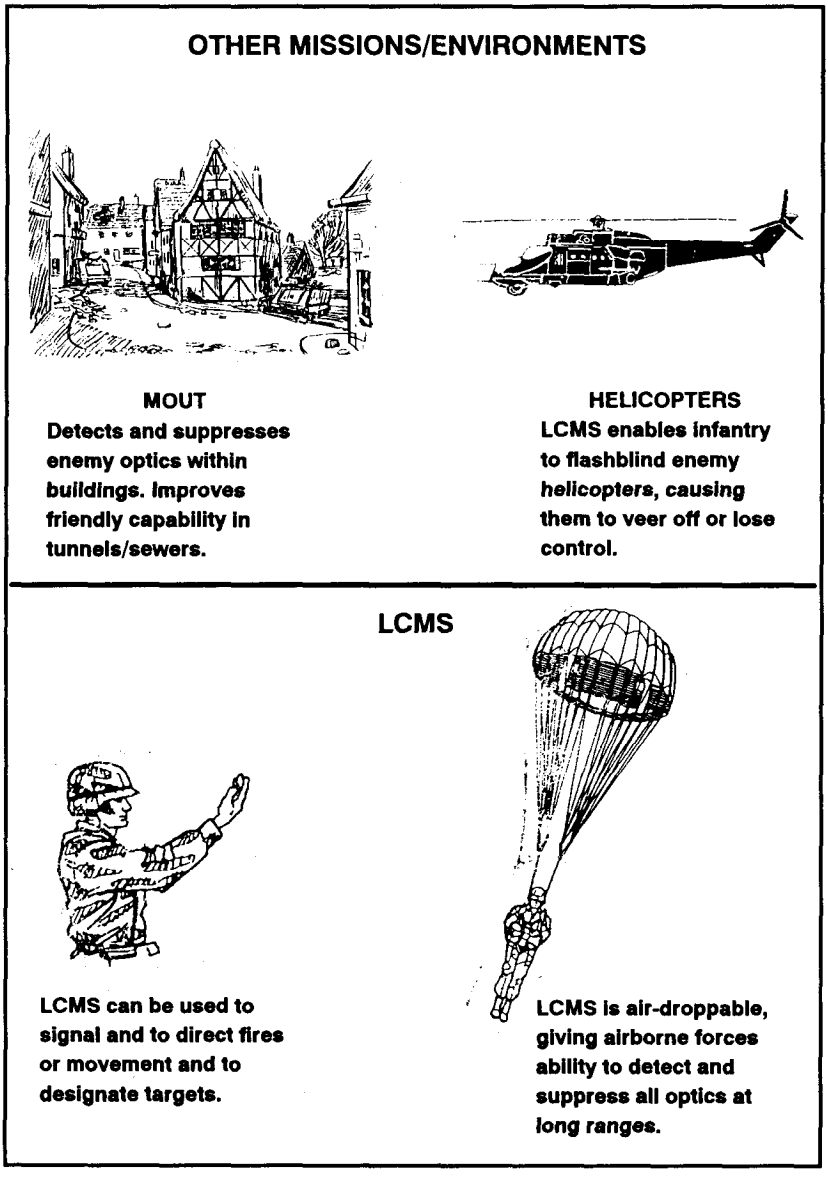


Figure C-1. Laser countermeasure system.

APPENDIX D

STANDING OPERATING PROCEDURE

This appendix provides the tactical standing operating procedures for infantry reconnaissance platoon and squad. The procedures apply unless a leader makes a decision to deviate from them based on the factors of METT-T. In such a case, the exception applies only to the particular situation for which the leader made the decision.

STANDING OPERATING PROCEDURE

(Classification)

HEADQUARTERS
_____PLATOON
(Location)
(Date)

RECONNAISSANCE PLATOON TACTICAL STANDING OPERATING PROCEDURE (TSOP)

SECTION I. GENERAL

A. **Purpose.** The purpose of this TSOP is to establish a common framework for reconnaissance platoons. Items contained within this TSOP should not replace existing platoon procedures. However, reconnaissance platoons without an established TSOP should use this document as a minimum.

B. **Application/Scope.** This TSOP is to be used by all reconnaissance platoon soldiers. It applies to all supporting units working directly with the platoon. All TSOP provisions apply except as modified by operations, orders, and plans. No provision shall replace good judgment and common sense,

C. **Command Responsibility.** The reconnaissance platoon leader is responsible for this TSOP. Ensuring compliance of established TSOPs within the platoon is a command responsibility that is monitored by all leaders. All changes will be submitted to the platoon sergeant. The platoon leader is the approving authority for all changes.

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- Appendix 2. **Orders**
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ANNEX C. **FIRE SUPPORT**
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ANNEX H. **REPORTS AND REQUESTS**
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Personnel Status Report
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Appendix 2. **Intelligence Reports**
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Appendix 3. **Operations Reports**
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Shelling Report, Mortar Report, Bomb Report
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Appendix 5. **NBC Reports**
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NBC 2 Report
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NBC 6 Report
Nuclear Warning/Chemical Warning
Effective Downwind Message
Chemical Downwind Message

ANNEX I. **OPSKEDs**

TASK	**CODE NAME**
Appendix 1. **Patrol**	**Ranger**
Appendix 2. **Actions at Objective (Recon)**	**Darby**
Appendix 3. **Contact Report**	**Salute**
Appendix 4. **Quartering Party**	**Pilot**
Appendix 5. **Passage of Lines**	**River**

ANNEX A (COMMAND AND CONTROL) TO RECONNAISSANCE PLATOON TSOP

1. **COMMAND.** The platoon leader is responsible for effectively using the platoon's resources and for employing, organizing, and directing the platoon during combat operations. Effective command allows subordinate leaders to exercise their initiative, take risks, and seize opportunities during the mission.

a. **Succession of Command.** During combat, any member of the reconnaissance platoon may be required to assume command. Frequently, the RATELO may need to continue operations and direct the operation until the chain of command can be reestablished. Under normal conditions, the reconnaissance platoon succession of command will be—

- Platoon leader.
- Platoon sergeant.
- Main effort squad leader.
- Supporting effort squad leaders by rank.

b. **Assumption of Command.** When it is necessary for a new leader to assume command of the reconnaissance platoon, if and when the situations allows it, he will accomplish the following tasks:

(1) Inform higher headquarters of the change.
(2) Reestablish the platoon chain of command and ensure all subordinates are made aware of the change.
(3) Check the platoon's security.
(4) Check the platoon's equipment and personnel status.
(5) Confirm the platoon's location.
(6) Assess the platoon's ability to continue the mission.
(7) Inform higher command of assessment.
(8) Continue the mission.

2. **CONTROL.** The challenge to the leader is to use the minimal amount of control required to synchronize the operation, while still allowing decentralized decision making.

APPENDIXES:

1. DUTIES AND RESPONSIBILITIES
2. ORDERS
3. COMMUNICATIONS

APPENDIX 1 (DUTIES AND RESPONSIBILITIES) TO ANNEX A (COMMAND CONTROL) TO RECONNAISSANCE PLATOON TSOP

1. **PLATOON LEADER.** The platoon leader is responsible for accomplishing the platoon's mission. He is responsible for positioning and employing all assigned and attached assets.

a. He leads the platoon in support of battalion missions.

b. He keeps the commander informed.

c. He plans missions with the help of the platoon sergeant, squad leaders, and other key personnel.

d. He stays abreast of the situation and goes where he is needed to supervise, issue FRAGOs, and accomplish the mission.

e. He requests logistical support from battalion.

f. He directs the platoon sergeant in planning and coordinating the platoon's CSS effort.

g. During planning, he receives on-hand status reports from the platoon sergeant and squad leaders.

h. He reviews platoon requirements based on the tactical plan.

i. He issues guidance concerning the casualty evacuation plan.

j. During execution, he checks the work of the platoon sergeant and the squad leaders.

k. He ensures the soldier's load is reasonable.

2. **PLATOON SERGEANT.** The platoon sergeant is the senior NCO in the reconnaissance platoon and second in command.

a. He supervises and coordinates the logistics, administration, and maintenance activities of the platoon.

b. He organizes and controls the platoon alternate CP.

c. He receives the squad leaders' requests for rations, water, and ammunition. He directs the routing of supplies and mail.

d. He maintains platoon strength information, consolidates and forwards the platoon's casualty reports (DA Forms 1155 and 1156) and receives replacements.

e. He monitors the morale, discipline, and health of soldiers in the platoon.

f. He controls task-organized elements in the reconnaissance platoon during tactical operations. This can include, but is not limited to, quartering parties, security forces in withdrawals, and security patrols.

g. He coordinates and supervises platoon resupply operations.

h. He ensures that ammunition and equipment are evenly distributed.

i. He ensures that the casualty evacuation plan is complete and executed properly by directing the platoon's combat lifesavers, aid and litter teams.

3. **SQUAD LEADER.** The squad leader is responsible for the squad.

a. He controls the movement of his squad.

b. He exercises his command through the ASLs.

c. He manages the logistical and administrative needs of his squad. He requests and issues ammunition, water, rations, and special equipment.

d. He maintains accountability of his soldiers and equipment.

e. He completes casualty feeder reports and reviews the casualty reports completed by squad members.

f. He supervises the maintenance of the squad's weapons and equipment.

g. He conducts inspections of his soldiers and their weapons and equipment.

h. He keeps the platoon sergeant and platoon leader informed on his squad's supply status and equipment readiness.

i. He ensures that supplies and equipment are internally cross-leveled.

APPENDIX 2 (ORDERS)
TO
ANNEX A (COMMAND AND CONTROL)
TO
RECONNAISSANCE PLATOON TSOP

1. **ORDERS DISSEMINATION.** The reconnaissance platoon leader issues the orders to the squad leaders when possible. If not, he adheres to the following priorities:

a. Platoon leader to platoon sergeant to squad leaders, and leaders of supporting units.

b. FRAGO (platoon CP to squad CP).

2. **GRAPHICS.** Make graphics as nonrestrictive as possible. Ensure everyone has a copy of the overlays.

3. **ORDERS GROUP.** For dissemination of platoon orders when tire tactical situation allows maximum participation. The following personnel will attend:

- Platoon leader.
- Platoon sergeant.
- Squad leader.
- Leaders of attached units.

TABS:

A - WARNING ORDERS
B - OPERATION ORDERS
C - FRAGMENTARY ORDERS

TAB A (WARNING ORDERS)
TO
APPENDIX 2 (ORDERS)
TO
ANNEX A (COMMAND AND CONTROL)
TO
RECONNAISSANCE PLATOON TSOP

1. **FORMAT.** The warning order format should generally follow the five-paragraph operation order. Warning orders give subordinates advance notice of upcoming tactical operations. This gives them time to prepare. The order should be brief, but complete. A sample format follows:

SAMPLE WARNING ORDER

1. **SITUATION.** Brief description of the enemy and friendly situations. Attachments to the reconnaissance platoon.
2. **MISSION.** Use the restated mission from the mission analysis.
3. **GENERAL INSTRUCTIONS.**

a. Special teams or task organization within the platoon.

b. Uniform and equipment common to all (changes from SOP; for example, take extra meals or carry CPOG).

c. Special weapons, ammunition, or equipment (different from SOP). (For example, mines, satchel charges, grappling hooks, drop or pickup NVDs.)

d. The tentative time schedule is formed on the basis of mission analysis. It includes at least:

(1) Earliest time of move.

(2) Time and place of OPORD.

(3) Inspection times and items to be inspected.

(4) Rehearsal times and actions to be rehearsed. (For example, actions at the objective, special teams; for example, EPWs, or other actions as time allows.)

e. Additional general instructions as needed or by SOP.

2. **CONSIDERATION.** The following items should be considered during the preparation of a warning order:

- Time of early personnel attachments (GSR, engineer squads, and so on).
- OPORD.
- Squad leaders' briefback to platoon leader.
- Issue of special equipment, SOI, time, and location.
- COMMEX times.
- Test fires and zeros (including NVDs).
- Rehearsals (squad/platoon).
- Ammunition distribution (time and location).
- Initial/final inspections.
- Platoon meetings/final briefback.
- JM briefings/initial manifest call/SAT/final manifest call/load time/TOT (airborne units only).
- Final sanitation of troops.

TAB B (OPERATION ORDERS)
TO
APPENDIX 2 (ORDERS)

ANNEX A (COMMAND AND CONTROL)
TO
TO RECONNAISSANCE PLATOON TSOP

The operation order is used to give subordinate leaders the essential information needed to execute an operation. The platoon leader is responsible for preparing the OPORD with the assistance of the PSG and other selected individuals. 1st Squad prepares a terrain model for all platoon OPORDs. The platoon leader prepares a concept sketch. The terrain model and the concept sketch are visual aids that assist the platoon leader in explaining the OPORD. Squad leaders familiarize themselves with the terrain model before the platoon leader issues the OPORD. The platoon sergeant briefs the terrain analysis by using the factors of OAKOC. The platoon leader briefs the OPORD orally from notes that follow the five-paragraph format. At the completion of the OPORD, each squad leader briefbacks his mission-essential tasks. All notes taken by the squad leaders are given to the PSG for destruction after completion of the platoon rehearsal. (See Figure D-1 for an example of an oral OPORD [five-paragraph format].)

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
TASK ORGANIZATION	**Task organization:** Explain how the unit is organized for the operation. If there is no change to previous task organization, indicate "no change."	" SFC Herman has already briefed everyone on the terrain, so let's get started. Task organization for this mission remains the same. I will be with 1st Squad and SFC Herman will be with 2d Squad.
1. SITUATION	**1. SITUATION:** Provide information essential to the subordinate leader's understanding of the situation.	"Situation:
a. Enemy forces.	a. Enemy Forces. Refer to the overlay or sketch. Include pertinent intelligence provided by higher HQ and other facts and assumptions about the enemy. This analysis is stated as conclusions and addressed— (1) Disposition, composition, and strength. (2) Capabilities. A listing of what the enemy is able to do and how well. (3) Most probable course of action.	"Enemy forces: The S2 has received reports from brigade that a company of about 70 soldiers are establishing a base camp in the town of Sierra Vista, OBJ HAMMER. The grid for the town is SL123789. There are no civilians in the town. As you can see from the terrain model, the town is located about 500 meters from the bridge that crosses the Black River. The bridge is OBJ NAIL. The S2 believes the company is part of the National Liberation Party and that they are attempting to establish control over the Auga Valley. They are armed with a variety of small-arms weapons and light machine guns. The S2 is not sure if they have mortars. They have the capability of providing squad-size reaction forces mounted in pick-up trucks. In the past, they have used mines and early warning devices to provide security. Their most probable course of action is to continue to establish the base camp. Expect them to have security patrols and ambushes. These will probably be on the roads and trails leading into camp.

Figure D-1. Example of an operation order.

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
b. Friendly Forces.	b. Friendly Forces. Provide information that subordinates need to accomplish their tasks. (1) Higher unit. A verbatim statement of the higher unit commander's mission statement from paragraph 2 and concept of the operation statement from paragraph 3a.	"Friendly forces: The battalion's mission is to destroy the enemy on OBJ HAMMER and NAIL in order to establish control over Sierra Vista. The battalion commander's concept has A Company penetrating OBJ HAMMER from the south. A Company, the battalion's main effort, destroys enemy forces in HAMMER or forces their withdrawal to the north. B Company establishes platoon-size ambushes to the north of HAMMER along the main withdrawal routes, C Company conducts a supporting attack to secure OBJ NAIL once the main attack on OBJ HAMMER begins. These attacks allow battalion to gain control over Sierra Vista.
c. Attachments and Detachments.	c. Attachments and Detachments. When not shown under Task Organization, list here or in an annex, units attached or detached from the platoon, together with the effective times.	"Attachments and detachments: No battalion friendly elements are operating forward of the LD/LC.
2. MISSION	2. MISSION: Provide a clear, concise statement of the task to be accomplished and the purpose for doing it (WHO, WHAT, WHEN, WHERE, AND WHY). The leader derives the mission from his mission analysis.	"Mission: Our mission is to conduct an area reconnaissance of OBJ HAMMER and NAIL NLT 121900 May 92 in order to provide information for the battalion's main attack.

Figure D-1. Example of an operation order (continued).

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
3. EXECUTION	**3. EXECUTION:**	"Execution:
Intent.	Intent. Although not required at platoon level, intent is the leader's stated vision that defines the purpose of the operation and the relationship among the force, the enemy, and the terrain.	
a. Concept of the Operation.	a. Concept of the Operation. Refer to the operation overlay and concept sketch. Explain, in general terms, how the platoon, as a whole, will accomplish the mission. Identify the most important task for the platoon (mission-essential task) and any other essential tasks. If applicable, designate the decisive point, form of maneuver or defensive techniques, and any other significant factors or principles. Limit this paragraph to six sentences.	"Concept of the operation: My intent is to infiltrate the platoon to PL RED. At PL RED, two squads will conduct an area reconnaissance of HAMMER while the other squad reconnoiters NAIL. We cannot let the enemy discover that we are in the area so use long-range observation to gain the required information. We have until 0400 hrs to collect the information. We have about 6 hrs to collect the information and pass it to the S2. The information requirements for OBJ HAMMER are first priority.

Figure D-1. Example of an operation order (continued).

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
(1) Maneuver.	(1) Maneuver. Address all squads and attachments by name, give each of them an essential task. Designate the platoon's main effort; that is, who will accomplish the most important task. All other tasks must relate to the main effort. Give mission statements for each subordinate element.	"Maneuver: 1st Sqd, you are the main effort. You are to conduct an area reconnaissance of OBJ HAMMER. PIR is: location of CP, location of machine gun positions, location of any mortars, location of any vehicles. 2d Squad, you will conduct an area reconnaissance of OBJ NAIL. Your PIR is: determine if the bridge is prepared for demolition; is the enemy defending the bridge, if so what is their strength; where are they located, and do they have machine guns. 3d Squad, you will conduct an area reconnaissance of the eastern part of OBJ HAMMER. Your PIR is: location of existing or reinforcing obstacles, location of storage areas (specificallly ammunition and chow).
(2) Fires.	(2) Fires. Refer to the fire support overlay and target list. Describe the concept of fire support to synchronize and complement the scheme of maneuver. If applicable, address priority of fires (include changes), priority targets (who controls fires on them), and any restrictive control measures on the use of fires. (3) Additional combat support assets (engineer, Intel ADA). State the concept of employment of any combat support attachments or who gets priority of their use, how they are to be used (priority of effort), and how they will be controlled and by whom. (Do not include information that belongs in the Coordinating Instructions subparagraph.)	"Fires: We have priority of 81-mm mortar. When A Company reaches PL RED, they will have priority of fires. The following TRPs have been coordinated with the battalion FSO. The terrain model shows the location of the TRPs. The TRPs are to be used for breaking contact. Battalion has planned a two-minute preparation on OBJ HAMMER. "Intelligence: The battalion commander told me that the information we get on OBJ HAMMER is critical. He also said that if we are compromised, the enemy will depart the area. This means that we cannot let the enemy know that he is being observed. Do not try to get so close to the objective that you get compromised, so make sure you tell your soldiers.

Figure D-1. Example of an operation order (continued).

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
b. Tasks to Maneuver Units.	b. Tasks to Maneuver Units. Specify tasks, other than those listed in paragraph 3a(1), and the purpose of each, for squads and attachments. List each in separate numbered subparagraphs. Address the reserve last. State any priority or sequence.	"Tasks to maneuver units: 1st Squad, once you establish surveillance on the objective, maintain your positions. I will bring A Company Commander to your position. You will provide him with a sketch of the objective and brief him on what you observed. Once that is done, move back to the ORP, pick up your rucks and move to OP 1. 2d Squad, you will link up with the XO of B Company. Linkup time is 2030 hours at GL126790. Provide the XO with a sketch of the objective and give him the latest information. Leave surveillance on the objective. The XO of B Company told me that he wants to use the same position that we used to reconnoiter the objective. Once this is done, move to OP 2 and establish surveillance on the Road Intersection. 3d Squad, once you finish your reconnaissance, move back to the ORP. You are responsible for security of the ORP. Once 1st Squad returns to the ORP, move to OP 3 and establish surveillance on the pond.
c. Coordinating Instructions.	c. Coordinating Instructions. List the details of coordination and control applicable to two or more units in the platoon. Items that may be addressed include— Priority intelligence requirements, intelligence requirements, and reporting tasks. Mission-oriented protective posture level (see Section XI). Troop safety and operational exposure guidance (see Section XI).	"Coordinating instructions: Order of march is 3d, 1st, and 2d. I will travel behind 3d and SFC Herman will bring up the rear. At PL RED, 3d will follow Route Girl and 1st and 2d will follow Route Boy. We will travel in file using traveling overwatch. We depart this location at 1830 hrs. All reconnaissance must be completed and information passed to battalion by 130400 hrs. Ensure all NODs are working and have fresh batteries in them. The ORP for 1st and 2d Squad is SL123600. 3d Squad, let me know where you want to establish your ORP. All I want in your rucks is special equipment, water, and two MREs. Everything else goes into waterproof bags, which SFC Herman will collect and turn in to the S4. Squad rehearsals will be at 1500 hrs, platoon rehearsal is at 1600 hrs. Battalion attack will begin at 0545 hrs. Platoon linkup point is at OP 1.

Figure D-1. Example of an operation order (continued).

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
	Engagement and disengagement criteria and instructions. Fire distribution and control measures. Consolidation and reorganization instructions (other than SOP items). Reporting requirements; for example, crossing PLs or check points. Terrorism and counterterrorism instructions. Specified tasks that pertain to more than one squad or element. Rules of engagement. Order of march and other movement instructions (consider an annex).	
4. SERVICE SUPPORT	4. SERVICE SUPPORT. Include CSS instructions and arrangements supporting the operation that are of primary interest to the platoon. Include changes to established SOPs or a previously issued order. Paragraph 4 is often prepared and issued by the PSG.	"Service support:

Figure D-1. Example of an operation order (continued).

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
a. General.	a. General. Reference the SOPs that govern the sustainment operations of the unit. Provide current and proposed company trains locations, casualty and damaged equipment collection points, and routes to and from them.	'SFC Herman will issue batteries for the radios and NODs following this order. The last hot meal will be tonight at 1700 hrs. Make sure everyone has plenty of water.
b. Material and Services. (1) and (2) Supply and Transportation.	b. Material and Services: (1) Supply. Include information on all classes of supply of interest to the platoon. When applicable, list constraints and limitations, specific operating hours, distribution methods or schedules and other information which alters the standard manner in which supplies are managed, controlled, handled, or distributed.	
(3) Services.	(3) Services. Include information or instructions that prescribe the type of service available, designation, and location of the facility and schedule for service.	
(4) Maintenance.	(4) Maintenance. Include any information that differs from the established SOP on maintenance of weapons and equipment.	

Figure D-1. Example of an operation order (continued).

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
(5) Medical Evacuation.	(5) Medical evacuation. Identify procedures for evacuation of wounded if they differ from the SOP.	"The casualty collection points are the same as the checkpoints along the route. Battalion will recover casualties up to PL RED. Once we cross PL RED, the casualties will be recovered once the combat trains move to Checkpoint 6.
d. Personnel.	d. Personnel. Identify the EPW collection point and any additional instructions on EPW handling not covered in the SOP.	
e. Miscellaneous.	e. Miscellaneous. Include instructions for the destruction of supplies and any other information not covered elsewhere.	
5. COMMAND AND SIGNAL	5. COMMAND AND SIGNAL.	
a. Command.	a. Command. (1) Location of the higher unit commander and CP. (2) Location of the platoon leader or CP. (3) Location of the PSG or alternate CP. (4) Succession of command (if different from the SOP).	"Command: I will move with 3d Squad. At PL RED, I will move with 1st Squad and remain with them throughout the operation. SFC Herman will be with 3d Squad.

Figure D-1. Example of an operation order (continued).

FORMAT	ANNOTATED FORMAT	EXAMPLE, ORAL
b. Signal.	b. Signal. (1) SOI index in effect. (2) Listening silence, if applicable. (3) Methods of communication in priority. (4) Emergency signals, visual signals. (5) Code words.	"Signal: Current SOI is in effect. Radio-listening silence is in effect until the attack on OBJ HAMMER begins. The reporting times for information to battalion are 2200, 0200, and 0400 hrs. I will report the information on OBJ HAMMER, 3d Squad will report information on OBJ NAIL. Negative Reports are required. The time is now 1030 hrs. Take a 10-minute break and study what I have just said. At 1040, I want a briefback on your mission-essential tasks. What are your questions?"

Figure D-1. Example of an operation order (continued).

TAB C (FRAGMENTARY ORDERS)

APPENDIX 2 (ORDERS)

ANNEX A (COMMAND AND CONTROL)

RECONNAISSANCE PLATOON TSOP

1. **USE.** FRAGOs are used to change specific missions or to provide timely changes to existing orders.
2. **BREVITY.** Only those items that are changed from the original OPORD are included in the FRAGO.
3. **FORMAT.** FRAGOs follow the standard five-paragraph order. Items not required are deleted.

SAMPLE FRAGMENTARY ORDER

1. **SITUATION.**
2. **MISSION.**
3. **EXECUTION.**
   a. Concept of operation.
   b. Maneuver.
   c. Fires.
   d. Intelligence and electronic warfare.
   e. Obstacles, mines, and fortifications.
   f. Unit tasks.
   g. Coordinating instructions.

4. SERVICE SUPPORT.
5. COMMAND AND SIGNAL.

APPENDIX 3 (COMMUNICATIONS)

ANNEX A (COMMAND AND CONTROL)

RECONNAISSANCE PLATOON TSOP

1. **NETS.**

a. **Platoon Net.** This net, which maybe secure, is used by the platoon leader to control the tactical situation/flow of maneuver. Traffic of an administrative or logistic nature maybe transmitted on the platoon net, depending on the tactical situation.

b. **Battalion Operations and Intelligence.** The platoon leader or squad leader, when necessary, uses this net to report information and inform the command group of changes in the tactical situation.

2. **FREQUENCY CHANGES** (other than standard SOI periods).

a. **Directed Frequency Changes.** These changes are made IAW the supplemental instructions in the SOI.

(1) The NCS directs the frequency change in the following manner:

(a) A frequency is determined unusable.

(b) A net call is made and codeword is given to switch to alternate frequency.

(c) All stations acknowledge. If no one can be reached on a primary frequency, then the RATELO switches to an alternate frequency until contact is made. If two radios are available, he leaves one on the old frequency until he establishes contact on the alternate or primary frequency.

(2) The NCS makes a net call on the new frequency, calling every five minutes thereafter to try to reach stations not answering on the new frequency.

b. **Automatic Frequency Changes.** These changes are made only IAW the supplemental instructions to the battalion SOI.

(1) Stations make an automatic frequency change only if the original frequency is unusable.

(2) All other means of alternative communications are tried before an automatic frequency change is made.

3. **VINSON PROCEDURES.** (If platoon net has secure net capability.)

a. TEKs are changed weekly at 0001Z unless the OPORD states otherwise. TEKs are updated by MK/AK functions as required. When feasible, TEKs are physically transferred between operators.

b. Automatic keying functions allow rapid, automatic keying of the entire net, the preferred method of changing the TEK (talk variable). Stations that miss the AK function can be keyed by a second attempt. If this fails, the station must be manually keyed.

4. **RADIO.** Radio is the least secure means of communication. Radio is susceptible to interception and jamming. Proper radio procedures must be used to reduce the enemy's opportunity to hamper radio communications.

a. **Radio procedures**:

(1) Change frequencies and call signs IAW SOI.

(2) Use varied transmission schedules.

(3) Use established formats to expedite transmissions such as SALUTE.

(4) Encode messages or use secure voice.

(5) Use brevity codes when possible.

(6) All RATELOs will have trouble shooting card taped to their radio.

(7) The head of the OE254 or RC292 will be carried by the platoon leader's RATELO.

(8) If faced with the possibility of being captured, RATELOs and or leaders will ensure that SOI information is destroyed and radios zeroized.

b. **Actions if jamming is suspected**:

(1) Continue to operate. (Do not let the enemy know that he is having any affect on communications.)

(2) Disconnect the antenna. If interference stops, communications are probably being jammed.

(3) Switch to highest power.

(4) Relocate the radio. Terrain may mask the enemy's jamming signal.

(5) Use a directional antenna.

(6) Turn the squelch off.

ANNEX B (OPERATIONS)
TO
RECONNAISSANCE PLATOON TSOP

PURPOSE. To standardize selected routine operational procedures within the reconnaissance platoon.

APPENDIXES:

1. RECONNAISSANCE
2. SECURITY
3. MOVEMENT
4. ENGINEER
5. AIR DEFENSE
6. NBC DEFENSE
7. RELIEF IN PLACE OPERATIONS
8. LINKUP OPERATIONS
9. PASSAGES OF LINES
10. ASSEMBLY AREAS OPERATIONS

APPENDIX 1 (RECONNAISSANCE)

ANNEX B (OPERATIONS) TO RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** All tactical situations are unique and dependent upon METT-T. In every situation, however, you must establish security and remain undetected.

2. **ORGANIZATION.** The reconnaissance platoon organizes according to the information requirements needed by battalion. When required to reconnoiter more than one area, zone, or route, the platoon organizes into three reconnaissance elements. The platoon leader and platoon sergeant accompanies two of the reconnaissance elements. When necessary, the platoon leader remains as a separate element.

3. **REQUIREMENTS.** The platoon leader receives the information requirements from battalion S2. The platoon leader coordinates all available support while at the main CP. This includes but is not limited to the following:

a. Exact information requirements. Start/stop time.
b. Movement times/routes. Transportation.
c. Linkup times/signals.
d. Attachments/special equipment.
e. Fire support.
f. Communications plan.
g. Reporting time/instructions.
h. Logistics, resupply, MEDEVAC.
i. Contingencies, if compromised.
j. Enemy situation.
k. Concept of battalion mission.
l. Insertion/extraction methods available.
m. Drop time information no longer required.

4. **PLANNING.** The platoon leader is responsible for the planning of all missions. He directs members of the platoon to assist as required.

a. **Platoon Leader:**

- Issues warning order.
- Develops/briefs plan.
- Supervises rehearsals.
- Coordinates as required.

b. **Platoon Sergeant:**

- Assists platoon leader.
- Prepares paragraph 4 of OPORD.
- Coordinates logistic/transportation requirements.
- Briefs paragraph 4.

c. **Squad Leader:**

- Assists platoon leader/sergeant, as required.
- Prepares sand table.
- Briefs squad members.
- Conducts inspections/rehearsals.

5. **EXECUTION.** Execution is the accomplishment of the mission. Execution begins once the order has been issued and the platoon completes the actions necessary for the execution. The actions include rehearsals, movement, establishing the ORP, leader's reconnaissance, reconnaissance, withdrawing from the objective, and dissemination and reporting of information.

a. **Rehearsals.**

- At a minimum, always conduct actions at the objective.
- All platoon members and attachments will attend.
- At a minimum, attended by the platoon leader, the platoon sergeant, and the squad leaders.

b. **Movement.**

- Routes (primary, alternate), graphic control measures (rally point, phase lines, contact points).
- Movement formations, techniques.
- Azimuth, distance.

c. **Objective Rally Point.**

- Designated by terrain feature and grid coordinates in operations area.
- Platoon halts 200 to 400 meters before reaching the ORP.
- ORP reconned at a minimum by three-man element.
- Movement into and establishment of ORP.
- Platoon ORP occupation—lead squad occupies 12 to 4; middle squad occupies 4 to 8; trail squad occupies 8 to 12.
- Squad ORP occupation-as directed by the squad leader.
- Platoon leader, platoon sergeant, and RATELOs locate in the center of the ORP.

- Squad leaders prepare equipment for reconnaissance.
- Platoon leader issues contingency plan for the platoon while he is conducting the leader's reconnaissance.
- Platoon leader assembles individuals for the leader's reconnaissance.

d. **Leader's Reconnaissance.**

- Purpose of the leader's reconnaissance is to pinpoint the objective and confirm or deny assumptions made during operation order.
- Issue contingency plan to the platoon sergeant.
- Select a release point, if necessary, for additional control during the leader's reconnaissance.
- Establish surveillance.
- Place out security.
- Select subordinate element positions and show to the appropriate element leaders.
- Confirm the withdrawal plan, to include confirming the Location of the ORP or rendezvous point if different.
- Maintain surveillance of the objective once the leader's reconnaissance has been initiated.
- Issue a fragmentary order upon return to the ORP, if needed.

e. **Reconnaissance.**

- Reconnaissance will be area, zone, or route.
- Techniques are based on factors of METT-T and include fan, successive sector, converging routes, and stationary.
- Stay alert to observe any information about the enemy or terrain.
- Record information on paper or make a sketch.
- Maximum stealth and patience are fundamentals of success.
- Use night vision devices, LCMS, and binoculars to assist with observation.
- Use battlefield noises to cover sound of movement when in close proximity to the enemy.

To prevent being compromised, do not take unnecessary risks.

f. **Withdrawal.**

- The platoon leader selects a rally point or rendezvous point,
- Occupy the same as the ORP. The first element to arrive establishes security.

g. **Dissemination of Information.**

- Information gathered is recorded under the SALUTE Format-size, activity, location, unit, time, equipment.
- Squad leaders collect information from their squads.
- Squad leaders report all information to the platoon leader.
- Platoon leader collects all squad information.
- Squad leaders disseminate all other information obtained from other squads to their squad members.
- Platoon leader reports all information to higher headquarters.
- If operating separate from the platoon and no link up is planned, squad leaders report information to the platoon leader by radio. If unable to do so, the squad leaders report the information to battalion.

APPENDIX 2 (SECURITY)

ANNEX B (OPERATIONS)

RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** Security is part of every operation. The reconnaissance platoon is responsible for providing its own security and assists in providing security for the battalion. The platoon conducts screening missions for the battalion.

2. **ORGANIZATION.** The platoon leader organizes the reconnaissance platoon according to the mission. The platoon leader must first determine the battalion's mission before organizing the platoon. The mission determines how the platoon will be organized. During screening missions, the platoon may operate as a platoon or as individual squads under platoon control.

3. **REQUIREMENTS.** The battalion S3 assigns the reconnaissance platoon an initial screen line. Once the platoon leader has this information, he coordinates with the various staff elements while at the main CP. This includes, but is not limited to, the following:

a. Concept of the battalion mission.
b. Insertion/extraction methods available.
c. Movement times/routes.
d. Attachments/special equipment.
e. Communications plan, reporting time/instructions.
f. Available fire support and engagement criteria.
g. Enemy situation.
h. Logistics plan.
i. Linkup plan, if necessary.
j. Contingencies (for example, react to contact).

4. **PLANNING.** The platoon leader is responsible for the planning of all missions. He directs members of the platoon to assist as required.

a. **Platoon Leader.**

- Issues warning order.
- Coordinates fire support plan, passage of line, and adjacent patrols.
- Obtains the latest update/briefback S3.
- Develops/briefs plan.
- Supervises rehearsals.
- Coordinates as required.

b. **Platoon Sergeant.**
- Assists the platoon leader as required.
- Prepares paragraph 4 of the OPORD.
- Coordinates logistics/transportation requirements.
- Briefs paragraph 4.
- Supervises the squad leaders.

c. **Squad Leaders.**
- Assists the platoon leader/sergeant as required.
- Prepares the sand table.
- Disseminates warning order and OPORD to the squad.
- Conducts rehearsals.
- Briefback platoon leader.
- Conducts inspections.
- Supervises squad preparation.

5. **EXECUTION.** The execution of a screening mission is accomplished by reporting information to higher, which allows the commander to anticipate enemy contact. The screening mission requires the platoon to move in relation to the main body. In the offense, the platoon must conduct a moving screen. In the defense, the screen will normally be stationary.

a. **Movement.**
- Primary and alternate routes are used.
- Control measures include contact points, phase lines, and limit of advance.
- Azimuth and distance.
- Movement formations/techniques.

b. **Observation Post.**
- Location and orientation of observation.
- Size of OP.
- Reporting instructions.
- Time and duration of occupation.
- Establish communications with higher.

c. **Surveillance.**
- Two men always observe.
- Squad leader establishes security/rest plan/withdrawal.

- Use SALUTE to report any information.
- Call for fire as directed.
- Make a sketch of the area.
- Maintain surveillance on the enemy.

APPENDIX 3 (MOVEMENT)

ANNEX B (OPERATIONS)
TO
RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** The reconnaissance platoon's primary method of movement is by foot. The platoon leader selects the movement formation and technique based on METT-T and likelihood of enemy contact. The platoon must also be prepared to move by air, vehicle, or boat.

2. **FOOT MARCHES.** When moving along a road in a relatively secure area, the platoon moves with one file on each side of the road. Leave 3 to 5 meters between each soldier and 15 to 30 meters between each squad.

a. The normal rate of march for an 8-hour road march is 4 kmph. The interval and rate of march depends on the length of the march, time allowed, likelihood of enemy contact (ground, air, artillery), terrain and weather, condition of the soldiers, and the weight of the soldier's load.

b. A 15-minute rest will be conducted at the end of the first 45 minutes of a road march. During this halt, the squad leaders check the soldiers' feet and report the physical condition of the soldiers to the the platoon leader and platoon sergeant. Thereafter, a 10-minute rest is conducted every 50 minutes.

c. During halts, security is posted, and the most dangerous approaches into the platoon's area are covered by M203 grenade launchers. The platoon sergeant moves forward through the platoon, checking security as he goes and meets with the platoon leader to determine the reason for the halt.

d. During halts of 30 seconds or less, soldiers drop to one knee and cover their assigned sector. During halts longer than 30 seconds, a cigar-shaped perimeter is formed, and the soldiers assume the prone position.

3. **AIR MOVEMENT.** The reconnaissance platoon uses helicopter assets to move over extended distances and for resupply and evacuation. The platoon leader or platoon sergeant is responsible for planning and coordinating for the use of helicopters. The S3 air at battalion provides specific information concerning the planning and execution of air movement as follows:

- Type, number, and ACL of helicopters.
- Location of PZ and LZ (primary and alternate).

- Air movement data and timing for the operations.
- Helicopter formations in PZ and LZ.
- Abort and alternate plans.
- Communications (primary and alternate frequencies).
- Bump plan.
- Downed aircraft procedures.

a. **Loading.** The platoon leader designates chalk leaders (normally the squad leader) for each helicopter used. The CL briefs the individuals assigned to his chalk. Each soldier should know which helicopter he will ride on and where he will enter and sit once inside. Movement to the helicopter begins once the aircraft lands. The CL is responsible for controlling his chalk and ensuring that all members are aware of any changes.

(1) ***Breakdown.*** An example breakdown for the UH-60 with an ACL of 11 personnel is as follows:

Aircraft Number 1	**Aircraft Number 2**
Platoon Leader	Platoon Sergeant
Radio Telephone Operator	Radio Telephone Operator
Assistant Squad Leader	Assistant Squad Leader
Soldier	Soldier
Soldier	Soldier
Soldier	Soldier
Squad Leader	Squad Leader
Assistant Squad Leader	Soldier
Soldier	Soldier
	Squad Leader

Once the breakdown for each aircraft is accomplished, the platoon leader or platoon sergeant assigns the seating arrangement within the aircraft and designates a chalk leader. The platoon rehearses loading and unloading the aircraft to ensure all members of the platoon understand where they enter and exit the aircraft and where they will sit in the aircraft.

(2) ***Seats-in operation.*** The two techniques for loading the aircraft with the seats-in are split chalk and whole chalk. These techniques are METT-T dependent.

(a) *Split chalk.* The chalk is split in far-side and near-side groups. They move to the aircraft in file with the chalk leader (CL) leading the near-side group (Figure D-2, page D-34).

(b) *Whole chalk.* The CL supervises the loading of the near-side group. Then, he goes around the front of the aircraft to supervise loading of the far-side group (Figure D-3, page D-34).

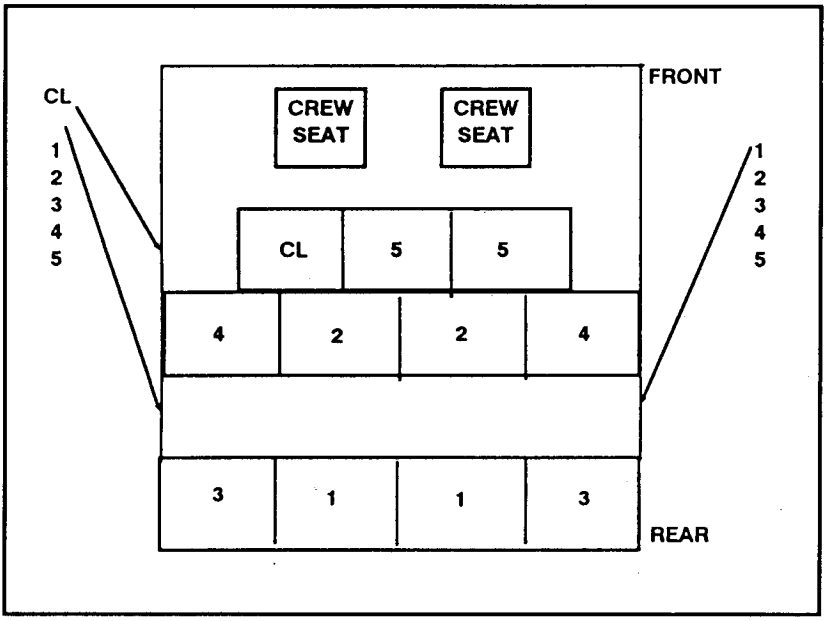

Figure D-2. Split chalk loading.

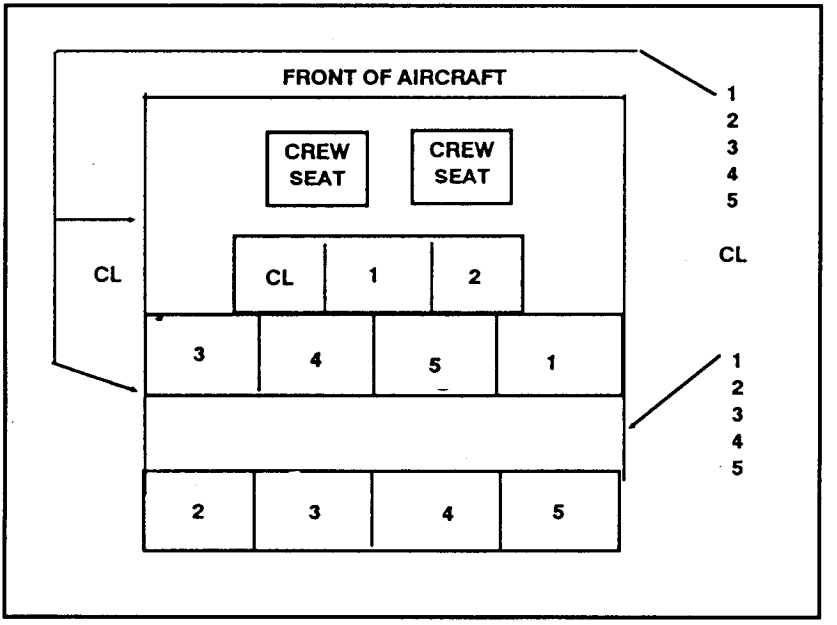

Figure D-3. Whole chalk loading.

WARNING

IAW AR 95-1, THE SEAT-OUT TECHNIQUE IS USED IN COMBAT ONLY—NEVER IN TRAINING. SEATS IN THE UH-60 ABSORB MUCH OF THE IMPACT IN A WHEELS-DOWN CRASH. THUS, CONDUCTING OPERATIONS WITH THE SEATS OUT GREATLY INCREASES THE RISK OF INJURY TO PASSENGERS IN A CRASH. UNITS SHOULD REHEARSE THE SEAT-OUT TECHNIQUE IN A SECURE LZ BEFORE COMBAT OPERATION. THIS TECHNIQUE SHOULD BE REHEARSED WITH THE PILOTS WHO WILL ACTUALLY FLY THE COMBAT MISSION AND WITH THE AIRCRAFT SHUT DOWN.

(3) ***Seats-out operations.*** With the troop seats removed, 22 combat-loaded soldiers and their rucksacks can be loaded (Figure D-4).

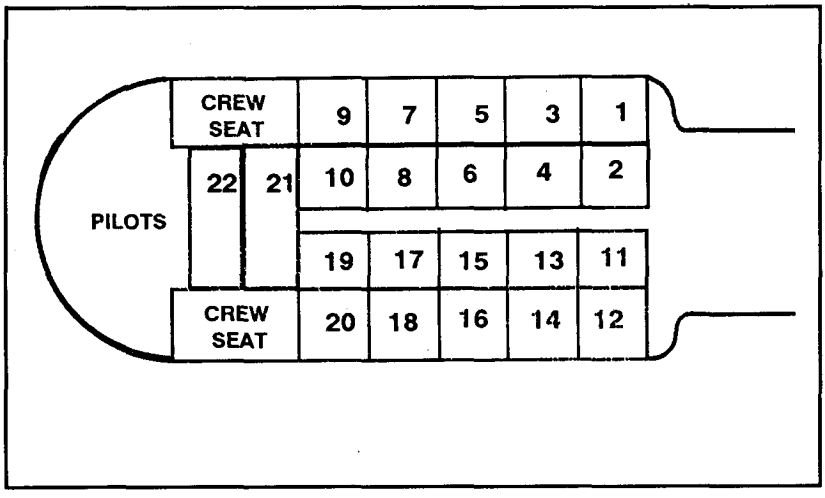

Figure D-4. Example seats-out operations load plan.

(a) Conducting combat operations with seats out offers some tactical advantages. Fewer aircraft are needed for each mission. Each UH-60 can carry almost twice as many soldiers when its seats are removed.

(b) The aircraft can be loaded from either or both sides. Soldiers line up in numerical order IAW the load plan. Loading is quicker if both sides are used.

(c) Before the soldiers enter the aircraft, each soldier's rucksack is placed on the floor of the aircraft where that soldier will sit. Once several rucksacks are in place, one or two soldiers who know the load plan can climb aboard to help position the rest of the rucksacks.

(d) Once all the rucksacks are loaded, the soldiers are loaded from rear to front. Soldiers already in the aircraft must help by pulling the others in tightly until they are all loaded and the doors are closed. Weapons are carried' with muzzles down, safeties on, and no rounds chambered.

(e) Leaders sit in the front. This gives them access to the radio handset between and just aft of the crew seats. Sitting here also allows leaders to communicate with the pilots. The best way for a leader to do this is to give the pilot a note with the LZ coordinates and landing instructions. For example, "Land on western edge of LZ Green at grid AB123456, aircraft facing north."

(f) The aircraft doors should be opened as the helicopter approaches the LZ. Soldiers hold on to each other until time to unload. They should unload from both sides of the helicopter when ground slope permits. One soldier is tasked to check the helicopter to ensure no equipment is left behind.

b. **Individual Requirements.**

- Fasten helmet chinstraps.
- Tie down loose equipment.
- Unload all weapons and place on SAFE with muzzle down.
- Unfix bayonets (if fixed).
- Wear identification tags.
- RATELO use short-whip antennas only.
- Load at double time.
- Once seated, fasten safety belt.
- Think safety.

c. **Unloading.** Once the aircraft lands, soldiers exit the helicopter as fast as possible with all equipment. The CL confirms landing direction from the pilot to assist in orientation on the LZ, particularly at night. Individuals move out from the side of the aircraft and assume the prone position facing away from the aircraft, weapons at the ready, until the aircraft has departed the LZ.

d. **Immediate Action on LZ.** If contact is made upon landing, soldiers exit the helicopter and immediately return fire upon the enemy to allow the aircraft to depart. All elements establish a base of fire from their initial position. The platoon leader calls for fire, if available, and once a base of fire is established, directs elements to break contact. This is situation dependent.

3. **VEHICLE MOVEMENT.** The battalion commander may decide to use vehicle assets to move the platoon. Again, the decision is based upon

METT-T. The use of vehicles allows the platoon to enter into their area of operations faster.

a. **Organization.** The number and type of transportation available dictate the platoon's organization for movement. The platoon leader assigns vehicle commanders, normally a squad leader.

b. **Loading.** Each vehicle commander is responsible for loading his assigned vehicle. The vehicle commander briefs the individuals assigned to his vehicle.

- Where to sit.
- Where to place equipment.
- Where to observe.
- Route (primary/alternate), start point, release point, check points.
- Contingencies (vehicle breakdown, actions on contact).
- Linkup/loading time.

APPENDIX 4 (ENGINEER)

ANNEX B (OPERATIONS) TO RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** This appendix prescribes considerations for employment of combat engineer assets to enhance capabilities.

2. **COMMAND AND CONTROL.** The platoon sergeant is responsible for linking up with the engineers. He ensures that the engineers are integrated into the perimeter and obtains all administrative requirements from the NCOIC. The NCOIC is included in all platoon meetings. After the engineers are established, the NCOIC reports to the platoon leader.

3. **EMPLOYMENT.**

a. During platoon operations, engineers maybe used—

(1) To assist in reconnaissance operations, particularly route reconnaissance.

(2) To increase sustained combat capability for the platoon through mobility, countermobility, and survivability. Planning considerations include the following:

(a) ***Mobility.*** Obstacle reduction to improve movement. Tasks are—

- Countermine (detect, bypass, breach, mark).
- Counterobstacle (detect, bypass, breach, reduce).
- Gap crossing (prepare assault sites, secure far shore, construct/emplace bridges).

(b) ***Countermobility.*** Normally the highest priority engineer task. Obstacle construction tasks to delay, disrupt, and kill the enemy are—

- Mine warfare (conventional or scatterable).
- Demolition-type obstacles.
- Conventional obstacles (craters, abatis, wire, ditches).

(c) ***Survivability.*** Development of fighting or protective position. Priorities for engineers are—

- Crew-served weapon/antitank positions.
- C2 facilities.
- Observation posts.

b. Engineer units addressed in OPORDs are given the following as a minimum:

(1) Mission and enemy situation.
(2) Concept of the operation and the commander's intent.
(3) Initial location.
(4) Movement instructions.
(5) On-order/be-prepared missions/tasks.
(6) Priorities of effort/support.

APPENDIX 5 (AIR DEFENSE)

ANNEX B (OPERATIONS)

RECONNAISSANCE PLATOON TSOP

1. **GENERAL.**

a. Passive air defense measures are vital to operations (cover, concealment, camouflage, dispersion, fire discipline, protective construction). Passive air defense is always used.

b. Active air defense measures are used only in extreme circumstances (generally when under direct enemy attack).

2. **AIR DEFENSE WARNINGS.**

a. **Red** - Attack imminent or in progress.

b. **Yellow** - Attack probable.

c. **White** - Attack not immediately probable or imminent.

3. **CONTROL OF AIR DEFENSE FIRES.**(Weapons-tight status applies until specifically directed otherwise.)

a. **Weapon Control Status.**

(1) Weapons hold - Fire only in self-defense.

(2) Weapons tight - Fire only at aircraft positively identified as hostile (refer to b below).

(3) Weapons free - Fire at any aircraft not positively identified as friendly.

b. **Rules of Engagement.**

(1) Individual soldiers have no authority to deviate from the established weapon control status or hostile identification criteria during individual operation, except that the rule of self-defense applies. Changes to the weapon control status and hostile identification criteria are made only—

(a) On order of higher headquarters. Verbal authentication is mandatory.

(b) By subordinate commanders imposing a **more restrictive** status or criteria.

(2) Soldiers under direct attack use individual weapons to engage low-flying, positively identified hostile aircraft only after fire is authorized by the platoon leader or the senior ranking NCO.

APPENDIX 6 (NBC DEFENSE) TO ANNEX B (OPERATIONS) TO RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** This appendix provides guidance for the effective implementation of NBC defense procedures in tactical situations.

2. **EARLY WARNING AND ALARMS.**

a. **NBC Reconnaissance.** The M256 chemical detection kit and chemical detection paper (M8/M9 paper) is used, based on a METT-T analysis, to detect chemical agents. The IM-174 radiacmeter is used to detect radiological contamination.

b. **Alarms.** This includes vocal and arm-and-hand signals.

(1) The vocal alarm for any chemical or biological hazard: the word "GAS."

(2) Standard arm-and-hand signal. (See STP 21-1-SMCT.)

(3) Improvised audio alarm: Metal on metal, or three long blasts on vehicle horn or siren.

3. **MASKING.**

a. **Automatic Masking.** Individuals should mask automatically—

(1) When an automatic alarm sounds.

(2) When a positive reading is obtained on detector paper or chemical agent detection kits.

(3) When individuals show symptoms of chemical agent poisoning.

(4) When an artillery attack **occurs** in an NBC threat environment. For example, the enemy has the ability to employ NBC rounds.

b. **Unmasking.** Soldiers should unmask—

(1) As soon as possible, except when a biological or toxin attack is suspected. The senior soldier in charge directs the unmasking procedures.

(2) IAW the procedure outlined in FM 3-4.

4. **NBC WARNING REPORTS.** (See Appendix 5, Annex H, for NBC report formats.)

a. All NBC defense personnel maintain a copy of GTA 3-6-3, based on METT-T analysis.

b. FM 3-3 provides specific instructions for preparing and interpreting NBC messages.

5. **DECONTAMINATION.** The platoon conducts decontamination operations IAW the procedures outlined in FM 3-5.

APPENDIX 7 (RELIEF IN PLACE)
TO
ANNEX B (OPERATIONS)
TO
RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** The reconnaissance platoon leader will coordinate with the battalion S3/2 as soon as the order to conduct a relief in place is received.

2. **CHECKLIST FOR THE RELIEF IN PLACE.** The following is coordinated:

a. Exchange of enemy information.
b. Reconnaissance of the area.
c. Exchange of communications information.
d. Use of guides and liaison personnel.
e. Security measures to be used, which includes deception plans.
f. Control measures to be used.
g. Fire support.
h. Method and sequence of relief.
i. Traffic control.
j. Transfer of responsibility.

3. **RECONNAISSANCE OF THE POSITION.** Commanders and leaders of both forces conduct reconnaissance of the position to determine—

a. The disposition of the relieved force in its defensive positions. Each leader should obtain a copy of the sector sketch.
b. Locations of separate areas for each squad.
c. Locations of the release points.
d. Locations of the contact points.
e. Separate routes to be used for each squad.
f. Locations of any obstacle-s.
g. Locations of the CS and CSS elements such as CPs, trains, aid stations, mortars, and antitank weapons.

APPENDIX 8 (LINKUP)
TO
ANNEX B (OPERATIONS)
TO
RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** Upon receipt of a warning order to execute a link up operation, the platoon leader contacts the other force concerned. Contact is always made from moving forces to stationary forces. If both are moving, higher headquarters determines which force makes contact.

2. **CHECKLIST FOR LINKUP OPERATIONS.**

a. Coordination is established to provide for the following:

- Command relationship of forces upon linkup and effective time.
- Mutual recognition system.
- Communications plan.
- Schemes of maneuver (to include control measures).
- Fire support (to include control measures).
- Actions to be taken after linkup.
- Assistance.
- Alternate plans.

b. The stationary force can provide the following assistance:

- Guides.
- Lanes through obstacles or airhead.
- Traffic control.
- Limited logistical and maintenance support.
- Limited medical support.
- Information on recent enemy activity.

c. The moving force can provide the following assistance:

- Logistical support.
- Maintenance support.
- Medical support.
- Fire support.

3. **LINKUP SIGNALS.** Infrared filter light is the standard linkup signal at night. The VS17 panel "pink" is used for daylight.

a. The stationary force initiates the signal after radio contact with the moving force or at a predesignated time. They initiate it by flashing the IR filter light once in the expected direction of the moving force. Use the red lens as an alternate signal.

b. The moving force answers the stationary force by flashing the IR filter light twice toward the linkup point. After positive linkup has been made, forces continue the mission as quickly as possible.

c. Forces may use colored lens covers on flashlights by following the same procedures used between stationary and moving forces.

APPENDIX 9 (PASSAGE OF LINES) TO ANNEX B (OPERATIONS) TO RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** The commander of the passing force contacts the stationary force on receipt of a warning order to execute a passage of lines or withdrawal through a rearward position.

2. **CHECKLIST FOR THE PASSAGE OF LINES.**

a. **Liaison.** Immediate liaison is established and maintained until the operation is completed.

b. **Forward and Rearward Passage of Lines.** Coordination is established to provide for the following:

- Selection of CP for moving force near the stationary CP.
- Exchange of intelligence.
- Exchange of tactical and communication plans.
- Arrangements for reconnaissance of routes, and for passage or withdrawal point patrols.
- Security measures for the operation (recognition signals, exchange of SOI items, and so on).
- Time and location for passage of command.
- Administrative, refueling, supply, and medical support.
- Route priority and movement control.
- Areas of passage or withdrawal, and guides.
- Fire support.
- Signal support.

(1) Areas selected for the passage or withdrawal should be unoccupied between or on the flanks of forces in position and use multiple routes to reduce their vulnerability during the operation.

(2) Priority of routes go to forces executing the passage or withdrawal. Traffic control is the responsibility of the force in position. This responsibility transfers with the passage of command.

(3) Passage of command is determined by mutual agreement by both commanders and is approved by the higher commander who directed the passage or linkup.

(4) The force in position provides the following administrative support:

- Evacuation of casualties and EPWs.
- Facilities (fueling points, water points, and so on).

- Route priority and traffic control.

c. **Conduct.** Liaison is established from the passing force to the force in position, down to and including platoon level.

(1) Movement during execution must be as deliberate and rapid as the tactical situation, light, and terrain allow.

(2) Routes, passage points, and soon are reconnoitered to the lowest level practicable.

APPENDIX 10 (ASSEMBLY AREA)
TO
ANNEX B (OPERATIONS)
TO
RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** The battalion occupies an assembly area for security while preparing for future operations. Preparations can include reorganizing, planning and issuing the order, rehearsing, receiving and issuing supplies, and maintaining vehicles and equipment. The actions of the battalion's move and occupation of an assembly area are covered in the battalion SOP.

2. **QUARTERING PARTY.** The reconnaissance platoon moves with or, inmost eases, in advance of the battalion quartering party. The quartering party precedes the main body and moves by infiltration-not as part of the march column.

a. The platoon reconnoiters the proposed assembly area for signs of enemy activity and suitability of the site. Each squad is given an area or zone to reconnoiter. Each squad is briefed on the information requirements for their particular area, and when and where to linkup with the platoon leader.

b. The platoon leader designates an area to establish an ORP. All squads ensure that they know the exact location of the ORP in order to leave excess equipment before departing on their reconnaissance. Once the ORP is established, the platoon leader's RATELO contacts the quartering party OIC. If not previously coordinated, the RATELO informs the quartering party OIC of the linkup point.

c. The platoon leader conducts link up with the quartering party. The platoon leader briefs the quartering party OIC on the location and routes of the squads and the location of the platoon ORP. This information is necessary since it prevents unexpected contact with the squads and members of the quartering party. Once the squads have completed their reconnaissance, they return to the platoon ORP.

3. **ORGANIZATION.** The assembly area maybe organized by assigning companies either sectors of the battalion perimeter or dispersed assembly areas within the battalion assembly area.

a. Security may be augmented by visual observation, sensors, and surveillance devices. Contact points for forces can also be designated to aid in coordinating security efforts. All routes in and out of the assembly area are strictly controlled. Roads are not used to define boundaries. Roads are the specific responsibility of the platoon whose sector they pass through.

b. The platoon might be tasked to reconnoiter routes of movement to counterattack positions, defensive positions, or passage lanes; or, it may be tasked to provide security by establishing OPs, roadblocks, or traffic control points.

c. The assembly area must allow adequate dispersion of all elements of the battalion.

d. OPs cover key terrain features and avenues of approach.

e. The battalion CP and trains are centrally located for security and to simplify planning, issuing orders, distributing supplies, and other activities.

f. Elements communicate by wire (if time and distance allows it to be installed) or by messenger to avoid enemy direction-finding capabilities. Radio is used only when necessary.

g. Occupation of an assembly area during limited visibility requires preparation by the quartering party. Usually, the most critical handover occurs at the RP. Thorough coordination is necessary for the march force to pass smoothly through the RP without halts.

h. Several marking techniques are available to aid in smooth nighttime occupation. Guides using prearranged colored or infrared lights for recognition signals meet the march force at the RP and lead force along a marked route to the assembly area. Light discipline is practiced by shielding all illumination devices, including infrared. Communication wire, engineer tape, or both can be used to mark routes to company RPs. Subunit guides, using prearranged infrared or colored lights or flash recognition signals, link up with companies or platoons and lead them to prepared sectors.

i. Once the assembly area is established, the platoon leader coordinates with the main CP for upcoming missions.

j. The platoon sergeant establishes priority of work. The squad leader ensures priorities are followed.

- Security.
- Maintenance, weapons, radios, NVDs, personnel.
- TLP.
- Chow.
- Sleep.
- Request resupply.

ANNEX C (FIRE SUPPORT)

RECONNAISSANCE PLATOON TSOP

1. **PLANNING.** The reconnaissance platoon leader is responsible for the following

a. Coordinates for fire support with the battalion fire support officer. Coordinates directly with the mortar platoon leader when the opportunity exists.

b. Understanding how fire support is to be used to support the mission. This includes priority and types of fire support available and engagement criteria.

c. Fire control measures (for example, no-fire area, restrictive fire lines).

d. Fire support request channels. Confirms this with battalion FSO and mortar platoon leader.

2. **SQUAD LEADERS.** Squad leaders are responsible for calling and adjusting indirect fires. Methods of calling for fire include grid, polar, and shift from a known point. Squad leaders request indirect fires based on the platoon leader's guidance. TRPs are included in the squad/platoon sector sketches.

NOTE: All indirect fires must be observed.

ANNEX D (INTELLIGENCE) TO RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** The reconnaissance platoon is the primary information gathering asset for the battalion commander.

2. **REQUESTS AND REPORTS.** (See Appendix 2, Annex H.)

a. Required reports and times for submission are established in each OPORD based on the mission.

b. SALUTE reports are submitted when any known or suspected enemy activity has been observed.

3. **INTELLIGENCE OPERATIONS CHECKLIST.**

a. **Planning Phase.**

(1) Analyze the mission.
(2) Prepare analysis of the area of operations.
(3) Coordinate with S2 for PIR and IR.
(4) Request and distribute maps and imagery.
(5) Conduct threat and OPSEC briefings.
(6) Coordinate reporting schedules with higher.

b. **Execution Phase.**

(1) Report all significant information to higher headquarters via report formats in Appendix 2 to Annex H.
(2) Ensure squads are reporting promptly.
(3) Disseminate information to subordinates promptly.
(4) Recommend changes to PIR and IR.
(5) Provide continuous information to battalion.

ANNEX E (OPERATIONAL SECURITY) TO RECONNAISSANCE PLATOON TSOP

1. **COVER AND CONCEALMENT.**

a. **Camouflage.** Camouflage paint is used by all soldiers in the platoon to cover exposed skin. The outline of an individual is broken using vegetation, burlap, or any other available means. Fighting positions are camouflaged using all exposed dirt to break up the outline of a position. The position is checked from the enemy's view. Equipment is camouflaged using vegetation to breakup the outline of the equipment and to cover all reflective surfaces.

b. **Protection.** Fighting positions have 18 inches of overhead cover. Soft caps may be worn at the platoon leader's discretion when conducting reconnaissance or surveillance operations. However, helmets are worn during all nonreconnaissance operations.

c. **Concealment.** In order to avoid detection, squads maximize the use of terrain and vegetation.

2. **OBSERVATION POSTS.**

a. **Positioning.** OPs always contain a minimum of two soldiers and have communication with the scout platoon headquarters (landline, FM, or signaling device). OPs are positioned IAW METT-T. Routes to and from the OP are recorded and rehearsed. Each member of the OP is thoroughly briefed on the rules of engagement before departing for their post. Signals for the return of OPs (running password, challenge/password, light signals) will be established and briefed to all platoon personnel.

b. **Relief of OPs.** When an OP is relieved, the relieving personnel meet with the current OPs and receive a briefing that contains, as a minimum:

- Call signs and frequencies.
- Routes to and from perimeter.
- All signals and passwords.
- Area of responsibility of observation.

3. **STAND-TO.** A stand-to will be conducted 30 minutes before BMNT and 30 minutes after EENT.

a. Assistant team leaders and squad leaders check every individual soldier to ensure he is awake and alert, to ensure his equipment is all packed in his rucksack, and to ensure he is observing his fields of fire in his assigned fighting position.

b. Team leaders and squad leaders gather sensitive items report and weapons operational status, and passes the report to the platoon sergeant.

c. The platoon sergeant gathers the reports, spot checks squad positions, and passes the reports to platoon leader.

d. The platoon leader reports to higher headquarters, spot checks squad.

4. NOISE LIGHT, AND LITTER DISCIPLINE.

a. During preparation for combat, each squad conducts a final inspection. Shortcomings in noise discipline are identified. Clanking, rattling, and so forth, is subdued by the use of tape or cloth as required.

b. When lights are necessary for planning or map reading, a poncho is used to conceal the light.

c. Cigarettes and cooking fires are not lit during daylight or darkness without permission of the platoon leader, or the leader of an independent element.

d. Nonverbal means of communication are used to the maximum extent possible. Keep voices low when it is necessary to talk.

e. During stationary operations, trash is collected and backhauled during logistics runs. If this is not practical (and in all other operations), soldiers carry trash until it can be disposed of securely (it is not buried or hidden unless specifically authorized).

5. **SENSITIVE ITEMS.** Before departing an assembly area, squad leaders check each soldier to make sure no unauthorized information concerning the the mission is carried forward. The platoon leader designates the information that is unauthorized. All unauthorized materials will be given to the platoon sergeant for destruction.

ANNEX F (LOGISTICS) TO RECONNAISSANCE PLATOON TSOP

1. **GENERAL.** In reconnaissance platoon operations, resupply is critical. The key to logistics is anticipation of requirements and planning. The platoon sergeant is the platoon's logistic coordinator and planner. Requests for resupply are coordinated through the platoon sergeant. Once the platoon sergeant coordinates for resupply, he briefs the squad leaders on the time, location, and method of resupply.

2. **EXECUTION.** The tactical situation dictates the methods used for resupply. These methods include ground, vehicle and aerial (rotor and fixed wing). Each squad designates two soldiers to assist the platoon sergeant in recovering resupply. These soldiers should have all the broken equipment and empty containers. The platoon sergeant links up with the soldiers and moves to and secures the drop-off site. Once resupply arrives, the designated soldiers load the resupply, exchange the broken equipment, and fill the empty containers. This should take no longer than 15 minutes. Once this is completed, the platoon sergeant moves back to the linkup site and breaks down the supplies. Excess supplies are cached. Never discard any supplies that can be used by the enemy or give them any indication that you are in the area. When this is completed, they move back to the squad's location and issue the supplies.

3. **SOLDIER'S LOAD.** Determining the soldier's load is a critical leader task. The soldier's load is always METT-T dependent and must be closely monitored. Soldiers cannot afford to carry unnecessary equipment into the battle. Every contingency cannot be covered. The primary consideration is not how much a soldier can carry, but how much he can carry without impairing combat effectiveness.

4. **COMBAT LOAD.** The mission-essential equipment, as determined by the platoon leader responsible for carrying out the mission, required for soldiers to survive immediate combat operations. When possible, a soldier's combat load should not exceed 60 pounds. There are two components as follows:

a. **Fighting Load.** The fighting load (the essential items needed to fight) includes bayonet, weapons, clothing, helmet, LBE, and a reduced amount of ammunition.

b. **Approach March Load.** The approach march load includes those items that are needed for extended operations. These are dropped in an ORP or other points before or upon contact with the enemy.

5. **LOAD WEIGHTS.**

a. Fighting Load. Items will be added or deleted based on METT-T and other factors.

Item	Weight Pounds
Helmet, Ballistic	**3.4**
Pistol Belt, Suspenders and First-Aid Pouch	**1.6**
canteen, 1 Quart, and Cover with Water (2 each)	**5.6**
Case, Small Arms (2 each)	**1.8**
Bayonet with scabbard	**1.3**
Proactive Mask with Decontamination Kit	**3.0**
Rifle, M16A2 with 30 Rounds of 5.56-mm Ball in Magazine	**8.8**
Magazines (4) with 120 Rounds of 5.56-mm Ball	**3.6**
Grenade, Fragmentation(1)	**1.0**
	TOTAL 30.1

b. **Approach March Load.** Items will be added or deleted from this list based on METT-T and other factors. When possible, the combined weight of both lists will not exceed 60 pounds.

Item	Weight Pounds
ALICE, Medium with Frame	**6.3**
Rations, MRE (3 each)	**3.9**
Canteen, 2 Quart, and Cover with Water	**4.8**
Toilet Articles	**2.0**
Towel	**0.2**
Bag, Waterproof	**0.8**
E-Tool with Carrier	**2.5**
Poncho, Nylon	**1.3**
Liner, Poncho	**1.6**
Binoculars	**3.2**
Battery, Radio, Spare	**3.0**
	TOTAL 29.6

(1) This list assumes a best case scenario where resupply can occur. However, the platoon may be required to carry heavier loads due to the nature of their mission. This fact does not negate the battalion's responsibility for planning adequate logistical support or the platoon leader's responsibility for ensuring that a logistical plan is coordinated.

(2) This list also keeps the "droppable" rucksack load under 30 pounds and the overall load under 60 pounds.

6. **SUSTAINMENT LOAD.** The remaining equipment and materials needed for sustained operations must be carried by company and battalion assets.

7. **LOAD MANAGEMENT TECHNIQUES.**

a. The leader decides, based on METT-T, what will be carried in the rucksack and what will be carried within immediate reach of the soldier.

b. Soldiers distribute loads evenly over body and LBE.

c. Nothing is carried on the front side of the LBE that prevents the soldier from taking well-aimed shots.

d. Distribute loads throughout the platoon.

e. Rotate heavy loads among several soldiers.

f. Always consider transportation assets to carry loads.

g. Drop rucksacks on enemy contact, or leave them in ORP.

h. Share or consolidate items.

i. Consider carrying fewer rations for shorter missions.

j. When carrying rucksacks, use water and rations in it first. After rucksacks have been dropped, soldiers will still have a full supply on their LBE.

NOTE: All rucksacks must look identical. Items common to all loads should be located in the same place.

ANNEX G (PERSONNEL AND ADMINISTRATION) TO RECONNAISSANCE PLATOON TSOP

1. **PERSONNEL MANAGEMENT.**

a. **Reports.** Annex H, Appendix 1. Squads report their status as soon as possible when present-for-duty strength falls below 85 percent, 70 percent, and 50 percent. Key personnel losses and any identified or temporary replacements are highlighted.

b. **Replacements.** The platoon sergeant requests replacements through the administrative and logistic net. All replacements are controlled at the field trains. The platoon sergeant is responsible for all replacements until the squad leader receives replacements.

c. **Casualties.** All casualties are reported on the administrative/logistics radio net via PERSTATREP. Team leaders and above each carry DA Form 1155/1156 pads in the top flaps of their rucksacks for recording casualty information. Transportation of bodies is coordinated by the platoon as soon as the tactical situation allows. If no evacuation/transportation is available, the deceased are buried and the eight-digit grid coordinates are recorded for future recovery. The platoon arranges for the recovery of bodies and personal effects for evacuation to the soldiers' home stations.

d. **Enemy Prisoners of War.** Enemy prisoners of war are evacuated to a collection point as specified in the OPORD—not to CPs. Squads provide guards to remain with EPWs until transferred to MP custody or IAW battalion SOP.

2. **PERSONNEL ADMINISTRATION.**

a. **Postal.** The platoon sergeant collects and distributes the mail. The squad leaders are responsible for collecting squad mail. The squad leaders turn in outgoing mail to the platoon sergeant during resupply operations and pick up incoming mail at the same time.

b. **Awards and Decorations.** All awards and decorations are processed IAW AR 672-5-1. Valor awards require two witness statements.

3. **MEDICAL.**

a. **Planning.** Three basic elements of medical support are planned for tactical operations.

(1) Triage/treatment.

(2) Evacuation.

(3) Supply/resupply.

b. **MEDEVAC.** Reports are initiated on the platoon net. If a soldier is unable to continue the mission, the following actions are required:

(1) If the tactical situation permits, the patient is moved to the nearest casualty collection point.

(2) If the tactical situation permits, the casualty and one soldier remain in the current location. The platoon leader or senior NCO notifies battalion of the location and requests evacuation. The combat lifesaver or senior NCO determines evacuation priorities based on the patient's condition. Personal equipment and nonmission-essential equipment accompanies the soldier, if evacuated. Mission-essentional equipment remains with the squad.

c. **Killed in Action.** Soldiers killed in action are placed in any shrouding material that is available (a sleeping bag or poncho). KIAs will not be evacuated before wounded soldiers. If the tactical situation permits, KIAs are moved to the nearest casualty collection point. If the tactical situation does not allow this, KIAs are buried in the current location, if authorized. The platoon leader or senior NCO notifies battalion of the location, name, and circumstances of death. This information, along with one identification tag and mission-essential equipment, remains with the squad. A list of serial number items and serial numbers go forward with the remains for identification purposes.

d. **Preventive Medicine.**

(1) Daily personal hygiene includes washing, shaving, and brushing teeth.

(2) Personal inspection for removal of ticks will be performed every six hours in heavily forested/jungle areas. All parasitic infestations (ticks, fleas, lice, and so on) should be reported immediately to medical personnel.

(3) Soldiers will not capture or handle snakes for any reason.

(4) Soldiers will not capture or handle animals. Animal bites are reported immediately to the chain of command.

(5) Combat lifesavers perform daily inspections. Foot problems are first priority. Squad leaders ensure that soldiers are changing socks and drying feet whenever the tactical situation permits.

(6) All diarrhea illnesses are reported to the battalion surgeon/PA.

4. **RELIGIOUS SERVICES.** The platoon sergeant is responsible for religious services. Squad leaders notify the platoon sergeant if religious services are requested.

5. **LEGAL.**

a. **Discipline, Law, and Order.**

(1) All soldiers are still subject to UCMJ in a combat environment. Squad leaders record any discipline problems and report them to the chain of command.

(2) When a soldier is suspected of having committed an offense punishable under the UCMJ, he maybe permitted to continue performing his normal duties pending legal action provided it will not jeopardize accomplishment of the mission, the safety or morale of the platoon, or present a flight risk.

b. **Conduct if Captured.** Soldiers identify themselves as American soldiers and insist on proper treatment IAW the 1949 Geneva Convention. The Code of Conduct and the Uniform Code of Military Justice remain in effect.

c. **Claims.** Claims by local citizens should be referred through the battalion claims officer to SJA for disposition. Reasonable effort should be made to preserve evidence of accidents for further investigation by US Claims authorities. Under no circumstances should soldiers promise or commit the US to reimburse for damages.

d. **War Crimes.** Suspected violations of the law of war whether committed by the enemy, US allies, or US personnel are reported immediately through the chain of command or other appropriate channels (provost marshal, inspector general, chaplain, and JAG) for rapid investigation.

e. **Disposition of Captured Weapons,** Materiel, and Equipment.

(1) All captured material is evacuated through appropriate channels as US Government property.

(2) No war trophies or mementos are taken.

(3) Personal property of EPW, civilians, or enemy KIA remains with the individual or the body as appropriate.

f. **Weapons and Munitions.**

(1) No privately owned weapons, ammunition, or explosives are carried or used by soldiers during operations.

(2) All military munitions, explosives, ammunition, and firing devices are strictly controlled, accounted for, secured, and turned in upon completion of operations.

ANNEX H (REPORTS AND REQUESTS) TO RECONNAISSANCE PLATOON TSOP

1. **SCHEDULE OF REPORTS.**

a. The following is a schedule of mandatory recurring reports and the frequency with which they are due; the times may vary IAW battalion TSOP:

REPORT	FREQ	NET USED	AS OF TIME	DUE TO BN OPNS CENTER	PROPONENT
PERSTATREP	D/X	PLT	1100Z	1200Z	Squad Leader/ Platoon Sergeant
PL's SITREP	D	PLT	2400Z	0600Z	Platoon Leader
LOGSTAT	D	PLT	2400Z	0600Z	Platoon Leader/ Platoon Sergeant
Battle Loss	D/X	PLT	2400Z	0600Z	Platoon Leader/ Platoon Sergeant
Effective Downwind Message	D/X	PLT	Updated Every 12 Hours	NA	Squad Leader
Chemical Downwind Message	D/X	PLT	Updated Every 6 Hours	NA	Squad Leader

(D = Daily, X = by exception)

2. **MEANS OF TRANSMISSION.** The preferred means of transmission for reports is by messenger. When messengers cannot be used, wire or secure radio (if available) are used.

3. **FORMATS.** The following appendixes should be included in the TSOP.

a. **Appendix 1-** Personnel Reports (Omitted)
(1) Tab A - Personnel Status Report (Omitted)
(2) Tab B - Casualty Feeder Report (Omitted)
(3) Tab C - Witness Statement (Omitted)
(4) Tab D - Serious Incident Report (Omitted)

b. **Appendix 2** - Intelligence Reports (Omitted)
(1) Tab A - EPW/Captured Materiel Report (Omitted)
(2) Tab B - Intelligence Summary (Omitted)
(3) Tab C - MIJI Feeder (Omitted)

c. **Appendix 3** - Operations Reports (Omitted)
(1) Tab A - Results of Contact Report (Omitted)
(2) Tab B - Commander's Situation Report (Omitted)
(3) Tab C - Minefield Report (Omitted)
(4) Tab D - Air Request Support (Omitted)
(5) Tab E - Shelling Report, Mortar Report, Bomb Report (Omitted)
(6) Tab F - Deployment/Redeployment Report (Omitted)
(7) Tab G - Closure Report (Omitted)

d. **Appendix 4** - Logistics Reports (Omitted)
(1) Tab A- LOGSTAT (Omitted)
(2) Tab B - Battle Loss (Omitted)
(3) Tab C - Resupply Insertion Request (Omitted)

e. **Appendix 5** - NBC Reports (Omitted)
(1) Tab A - NBC 1 Report (Omitted)
(2) Tab B - NBC 2 Report (Omitted)
(3) Tab C - NBC 3 Report (Omitted)
(4) Tab D - NBC 4 Report (Omitted)
(5) Tab E - NBC 5 Report (Omitted)
(6) Tab F - NBC 6 Report (Omitted)
(7) Tab G – NUCWARN/CHEMWARN (Omitted)
(8) Tab H - Effective Downwind Message (Omitted)
(9) Tab I - Chemical Downwind Message (Omitted)

ANNEX I (OPSKEDs)
TO
RECONNAISSANCE PLATOON TSOP

TASK	CODE NAME
Appendix 1. Patrol	Ranger
Appendix 2. Actions at Objective (Recon)	Darby
Appendix 3. Contact Report	Salute
Appendix 4. Quartering Party	Pilot
Appendix 5. Passage of Lines	River

APPENDX 1 (PATROL)
TO
ANNEX I (OPSKEDs)
TO
RECONNAISSANCE PLATOON TSOP

PATROL (RANGER)

LINE 1. AT INITIAL RALLY POINT (IRP)/AT INSERT POINT
2. FFL PASSAGE
   A. Complete, In Security Halt/TRP
   B. Compromised, Continuing Mission
   C. Compromised, Returning
3. SEND(ING) SITREP
4. PATROL AT CHECKPOINT _____
5. MOVE(ING) ON ALTERNATE ROUTE
6. PATROL SEPARATED, ATTEMPTING LINK UP
7. LINK UP COMPLETE
8. PROCEED TO RALLY POINT _____
9. AT RALLY POINT _____
   A. 50%
   B. 75%
   C. 90%
   D. 100%
10. RECON(ING) ORP
11. MOVE PATROL AZIMUTH _____, _____METERS
12. ORP OCCUPIED
13. CONDUCTING LEADERS RECON (IRP, ORP, OBJ, PATROL BASE, DANGER AREA AND SO FORTH)
14. RETURNING) TO ORP
15. LEAVE(ING) ORP
16. MOVE(ING) ON ALTERNATE RETURN ROUTE
17. INTEL IN HAND
    A. EPW
    B. Documents
    C. Equipment
    D. Photos
    E. Sketches
    F. EEI

18. REQUEST EXTRACTION
    A. Helicopter (type)
    B. Airplane (type)
    C. Boat (type)
    D. Truck (type)
    E. Stabo
    F. Other
19. PICKUP POINT, GRID OR TIRS _____,TIME _____
20. AT PICKUP POINT
21. PICKUP COMPLETE
22. REQUEST INSTRUCTIONS
23. RECON(ING) RE-ENTRY RALLY POINT (RRP)
24. RRP OCCUPIED
25. RECON(ING) FFL
26. RECON UNSUCCESSFUL, REQUEST INSTRUCTIONS
    A. Continue Recon
    B. Wait Until Light, Try Again
27. LEAVE(ING) RRP (SEE LINE 2)
28. DEBRIEF AT (LOCATION), (TIME)

APPENDIX 2 (ACTIONS AT OBJECTIVE (RECON)) TO ANNEX I (OPSKEDs) TO RECONNAISSANCE PLATOON TSOP

ACTIONS AT OBJ RECON (DARBY)
See Ranger Lines 1 Through 13
LINE 1 AT RELEASE POINT
2. OBJECTIVE PINPOINTED
3. SECURITY TEAMS MOVE(ING) OUT
4. SECURITY TEAMS IN POSITION
5. SURVEILLANCE/R&S TEAMS MOVE(ING) OUT
6. SURVEILLANCE/R&S TEAMS IN POSITION
7. ESSENTIAL ELEMENTS OF INFORMATION (EEI) ____ COL
8. ALL EEI COLLECTED
9. ENEMY ON OBJECTIVE
10. FORCES ENTERING OBJECTIVE AREA
A. Personnel
B. Vehicles
11. FORCES LEAVING OBJECTIVE AREA
A. Personnel
B. Vehicles
12. CONDUCTING RECON, GRID _____ OR TIS _____
A. Recon Delayed, Wait
B. Recon Complete, Returning) To ORP
C. Recon Compromised, Returning) To ORP
D. Recon Possibly Compromised, Freeze
E. Recon Possibly Compromised, Need Help
F. Be Prepared To Move Out Immediately
13. PROCEEDING) TO RALLY POINT
14. REQUEST SUPPORT FIRES _____
A. Start
B. Lift
C. Shift *Direction*
_____ *Distance*
_____

APPENDIX 3 (CONTACT REPORT)
TO
ANNEX I (OPSKEDs)
TO
RECONNAISSANCE PLATOON TSOP

CONTACT REPORT (SALUTE)
Mandatory (abbreviated SALT)
LINE 1. SIZE OF UNIT
2. ACTIVITY
3. LOCATION
4. UNIT
5. TIME
6. EQUIPMENT
7. WHO INITIATED CONTACT
8. RESULTS (CONTACT FOLLOW UP, SALUTE II)

APPENDIX 4 (QUARTERING PARTY)
TO
ANNEX I (OPSKEDs)
TO
RECONNAISSANCE PLATOON TSOP

QUARTERING PARTY (PILOT)

LINE 1. ASSEMBLE QUARTERING PART AT
2. QUARTERING PARTY PREPARED TO MOVE
3. QUARTERING PARTY MOVING OUT
4. RECON COMPLETE
5. QUARTERING PARTY MOVING TO TRAFFIC CONTROL POINT _____
6. QUARTERING PARTY IN POSITION
7. ASSEMBLY AREA PREPARATION COMPLETE
8. GUIDES EN ROUTE TO UNITS
9. UNIT AT LINKUP POINT
10. UNIT AT DISMOUNT POINT

APPENDIX 5 (PASSAGE OF LINES)
TO
ANNEX I (OPSKEDs)
TO
RECONNAISSANCE PLATOON TSOP

PASSAGE OF LINES (RIVER)

LINE 1. AT COORDINATION POINT

2. COORDINATION ON GOING

3. COORDINATION COMPLETE
   A. Pers To Pass _____
   B. Vehicles To Pass _____

4. INITIATING PASSAGE

5. A. 50% Complete
   B. 75% Complete
   C. 90% Complete
   D. 100% Complete

6. MAJOR PROBLEM (ONE WORD DESCRIPTION)

APPENDIX E

COMMUNICATIONS

The reconnaissance platoon's primay mission is to provide information to the commander about the battlefield environment. The platoon's primary means of communication is the FM radio. This appendix focuses on communication techniques and procedures. It also discusses imitative communication deception and authentication, visual signals, and use of local telephones.

E-1. PLANNING

Without effective communications, the reconnaissance platoon is worthless to the battalion. Setting up and maintaining communications is routine but sometimes challenging. The reconnaissance platoon uses all available means of communication; however, the FM radio is the platoon's primary source of communication. Ensuring that the platoon is able to communicate is a primary concern of the battalion commander and his staff. The signal officer ensures that the battalion's communication plan includes provisions that will allow the reconnaissance platoon to communicate effectively. The platoon leader coordinates with the signal officer to ensure that he understands the communications plan. The reconnaissance platoon operates on the battalion operations and intelligence net, the command net, or both, depending on the SOP. Internal communication is accomplished on the platoon net. (Figure E-1.) shows a radio diagram for the platoon.)

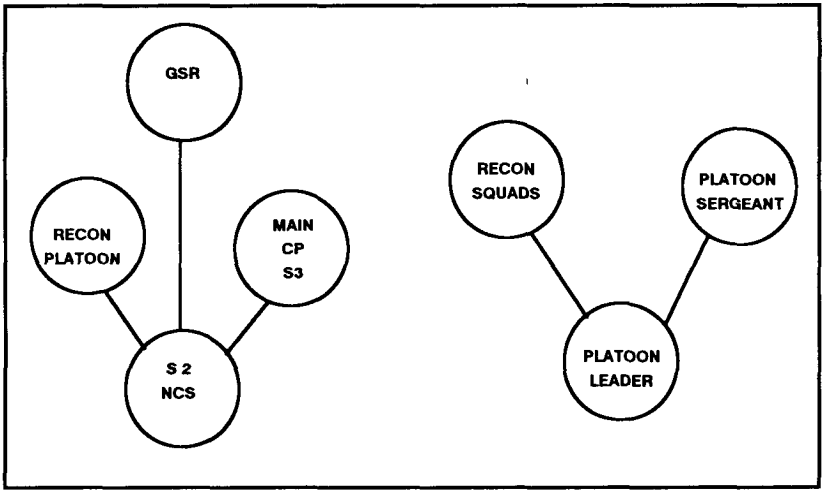

Figure E-1. Radio diagram.

a. **Battalion Communication.** To ensure effective communications, the signal officer can—

- Set up retransmission stations. If not available, the platoon sergeant can set up an internal relay station.
- Send communications teams with squads (for example, high frequency radio).
- Provide special equipment such as TACSAT.
- Organize a relay through a forward deployed force.
- Use a combination of the above.

b. **Special Equipment.** When the reconnaissance platoon is given a mission that requires special communications equipment, the battalion signal officer requests the equipment through the brigade signal officer. If the brigade does not have the assets to satisfy the request, the request is sent to the division. Based on the availability of assets, the division will task the proper agency to fill the request. The reconnaissance platoon should be trained to use the specialized communications equipment. TACSAT is one type of specialized communications equipment that does not always come with operators. However, the TACSAT will usually have trained operators. (AN/PSG3) (Figure E-2) is a rugged, lightweight (35 pounds) portable device used in quick-reaction situations where extended communication range is essential to mission effectiveness. The AN/PSC-3 can operate on the move with its whip antenna or in the at-halt/satellite mode. It transmits or receives in voice or data formats in both modes. The equipment can be used with speech security equipment.

Figure E-2. Special communications.

c. **Site Considerations.** A radio station should be in a position that allows the best communications while maintaining physical and communications security. Hills and mountains between stations limit the range of radio sets. When possible, a location is selected that allows LOS communications. Locations that provide the enemy a jamming capability, visual sighting, or easy interception are avoided. Table E-1 shows the LOS range planning for radios and antennas.

(1) Do not select an antenna position in a tunnel or beneath an underpass or steel bridge. Transmission and reception under these conditions are impossible due to high absorption of radio-finding energy.

(2) Use buildings to camouflage the antenna from the enemy. However, buildings between radio stations, especially steel and reinforced concrete structures, hinder transmission and reception.

(3) Avoid all types of pole wire lines. Wire lines absorb power from radiating antennas in their vicinity. They also introduce hum and noise interference in receiving antennas.

ANTENNA RADIO SETS	VEHICULAR AS-1729/ VRC	GROUND OE-254	GROUND RC-292	MAN-PACK AT-892/ PRC-25	MAN-PACK AT-271A/ PRC	MAGNAVOX SHORT ANTENNA	GROUND DOUBLET AN/GRA-50
AN/VRC-53	8 km/5 mi	16 km/10 mi	16 km/10 mi	8 km/5 mi	8 km/5 mi	NA	16 km/5 mi
AN/VRC-64	8 km/5 mi	16 km/10 mi	16 km/10 mi	8 km/5 mi	8 km/5 mi	NA	16 km/5 mi
AN/GRC-125	8 km/5 mi	16 km/10 mi	16 km/10 mi	8 km/5 mi	8 km/5 mi	NA	16 km/5 mi
AN/GRC-160	8 km/5 mi	16 km/10 mi	16 km/10 mi	8 km/5 mi	8 km/5 mi	NA	16 km/5 mi
AN/PRC-25	NA	16 km/10 mi	16 km/10 mi	8 km/5 mi	8 km/5 mi	NA	16 km/10 mi
AN/PRC-77	NA	16 km/10 mi	16 km/10 mi	8 km/5 mi	8 km/5 mi	NA	16 km/10 mi
AN/PRC-126	NA	NA	NA	3.2 km/2 mi	NA	5 km/3 mi	NA
AN/VRC-12	Low Pwr 8 km/5 mi	Low Pwr 16 km/10 mi	Low Pwr 16 km/10 mi	NA	NA	NA	Low Pwr 16/ km10 mi
AN/VRC-43	Low Pwr 8 km/5 mi	Low Pwr 16 km/10 mi	Low Pwr 16 km/10 mi	NA	NA	NA	Low Pwr 16 km/10 mi
AN/VRC-44	Low Pwr 8 km/5 mi	Low Pwr 16 km/10 mi	Low Pwr 16 km/10 mi	NA	NA	NA	Low Pwr 16 km/10 mi
AN/VRC-45	Low Pwr 8 km/5 mi	Low Pwr 16 km/10 mi	Low Pwr 16 km/10 mi	NA	NA	NA	Low Pwr 16 km/10 mi
AN/VRC-46	High Pwr 41 km/25 mi	High Pwr 82 km/50 mi	High Pwr 82 km/50 mi	NA	NA	NA	High Pwr 82 km/50 mi
AN/VRC-47	High Pwr 41 km/25 mi	High Pwr 82 km/50 mi	High Pwr 82 km/50 mi	NA	NA	NA	High Pwr 82 km/50 mi
AN/VRC-48	High Pwr 41 km/25 mi	High Pwr 82 km/50 mi	High Pwr 82 km/50 mi	NA	NA	NA	High Pwr 82 km/50 mi
AN/VRC-49	High Pwr 41 km/25 mi	High Pwr 82 km/50 mi	High Pwr 82 km/50 mi	NA	NA	NA	High Pwr 82 km/50 mi
(SINGARS) AN/PRC-119	Low Pwr 300 m	Low Pwr 600 m	Low Pwr 600 m	NA	NA	NA	Low Pwr 600 m

Table E-1. LOS range planning.

ANTENNA RADIO SETS	VEHICULAR AS-1729/ VRC	GROUND OE-254	GROUND RC-292	MAN-PACK AT-892/ PRC-25	MAN-PACK AT-271A/ PRC	MAGNAVOX SHORT ANTENNA	GROUND DOUBLET AN/GRA-50
AN/VRC-87	Med Pwr 4 km/2.5 mi	Med Pwr 8 km/5 mi	Med Pwr 8 km/5 mi	NA	NA	NA	Med Pwr 8 km/5 mi
AN/VRC-88	Med Pwr 4 km/2.5 mi	Med Pwr 8 km/5 mi	Med Pwr 8 km/5 mi	NA	NA	NA	Med Pwr 8 km/5 mi
AN/VRC-89	High Pwr 16 km/10 mi	High Pwr 32 km/20 mi	High Pwr 32 km/20 mi	NA	NA	NA	High Pwr 32 km/20 mi
AN/VRC-90	High Pwr 16 km/10 mi	High Pwr 32 km/20 mi	High Pwr 32 km/20 mi	NA	NA	NA	High Pwr 32 km/20 mi
AN/VRC-91	Veh Pwr AMP 32 km/21 mi	Veh Pwr AMP 70 km/42 mi	Veh Pwr AMP 70 km/42 mi	NA	NA	NA	Veh Pwr AMP 70 km/42 mi
AN/VRC-92	Veh Pwr AMP 32 km/21 mi	Veh Pwr AMP 70 km/42 mi	Veh Pwr AMP 70 km/42 mi	NA	NA	NA	Veh Pwr AMP 70 km/42 mi
AN/GRC-106	NA	NA	NA	NA	NA	NA	80 km GW/50 mi SW 160 to 2,400 km/100 to 1,491 mi
AN/PRC-104A	NA	NA	NA	NA	NA	NA	13 mi GW/50 mi SW/300 mi NUIS Antenna
AN/GRC-213	NA	NA	NA	NA	NA	NA	13 mi GW/50 mi SW/300 mi NUIS Antenna
AN/GRC-193	NA	NA	NA	NA	NA	NA	13 mi GW/50 mi SW/300 mi NUIS Antenna
AN/PSC-3	NA	NA	NA	NA	NA	NA	Range unlimited

Table E-1. LOS range planning (continued).

E-2. ANTENNA

When the platoon's radio antenna is damaged or destroyed during a mission, it must be repaired, or a field-expedient antenna must be built. In some situations, these antennas can extend the radio's normal range and should be used whenever the situation permits. (See FM 11-64 for more information.)

a. **Operation With a Broken Whip Antenna.** An expedient splint is a rapid means of repairing a broken whip antenna. (Figure E-3.) The paint is scraped off 3 to 6 inches from each broken end. The cleared ends are overlaid and tightly wrapped together with about 1 foot of stripped copper wire (which can be taken from inside WD-1 wire). A stick, pole, or sturdy branch is then placed on each side of the break. The splint is tightly wrapped with WD-1, rope, tape, or any available item.

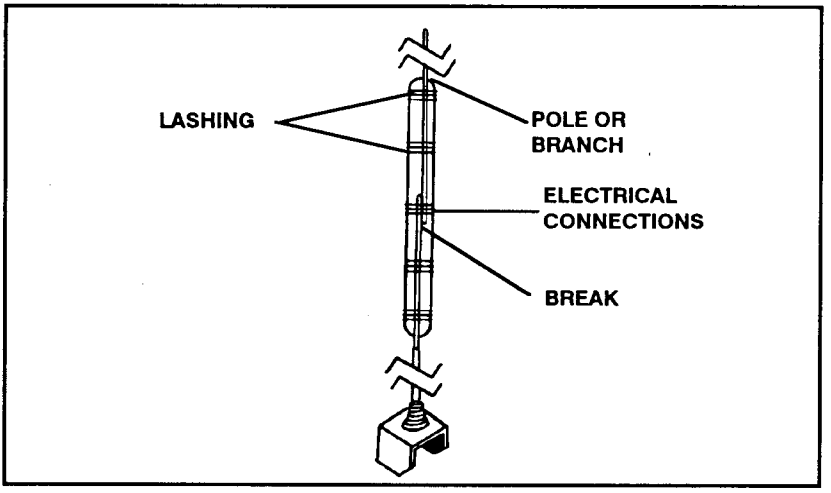

Figure E-3. Metallic whip antenna (spliced).

b. **Replacement of Broken Whip Antenna With Wire.** If the whip antenna is broken at the base, WD-1 can be used as an expedient replace-- merit (Figure E-4). The paint is scraped off the top 2 inches of the whip's stub. Then 12 inches of insulation are stripped from one end of a 10-foot section of WD-1. The stripped wire is tightly wrapped around the stub. It is passed over the top of the stub and joined into the hole with a wooden peg. The wire is secured to the stick with the peg and tape. Next, a 10-foot pole is tightly attached to the antenna's base and stub. The remaining 9 feet of WD-1 is attached along the pole with tape; the excess is trimmed away. The total length of this expedient antenna should not be more than 9 feet.

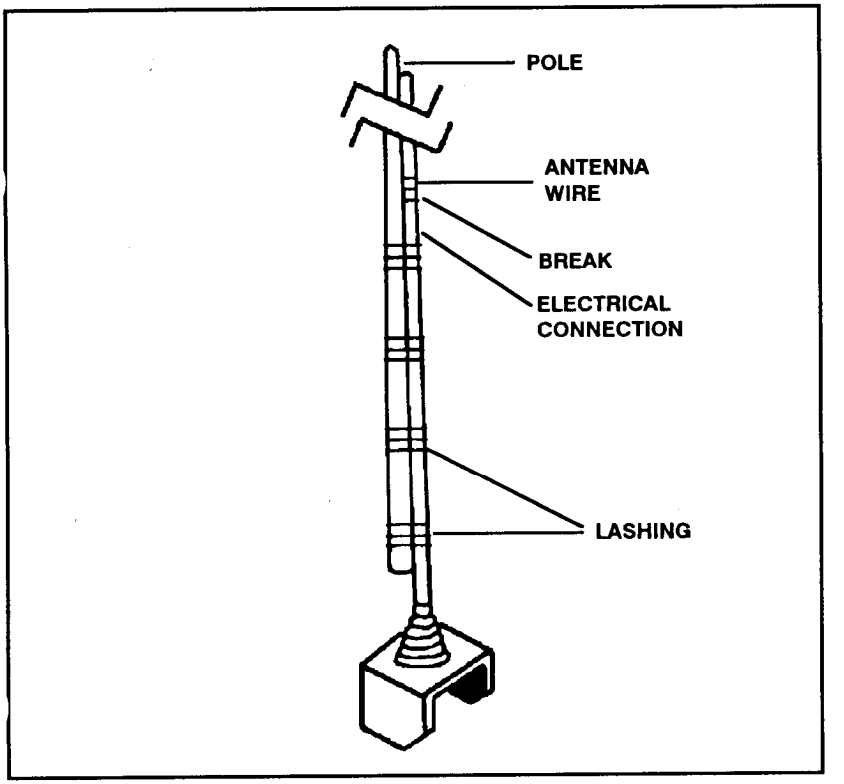

Figure E-4. Wire replacement for broken whip antenna.

c. **Directional Antenna.** Direction and distance are critial factors in determining good communications. An antenna is one of three types based on its directional features (Figure E-5).

- Omnidirectional—all directions.
- Bidirectional—any two opposite directions.
- Unidirectional—any one direction.

Each antenna has advantages and disadvantages. The omnidirectional or whip antenna enables communications without regard to the receiving station's location, but it is vulnerable to enemy radio direction-finding. The bidirectional antenna allows communications with two or more stations in opposite directions, but these antennas must be parallel. The antenna should be positioned at 90 degrees to the enemy lines to reduce the possibility of interception. A terminated long-wire antenna is unidirectional and the least open to enemy interception if properly positioned. Its disadvantage is that it transmits and receives best in only one direction.

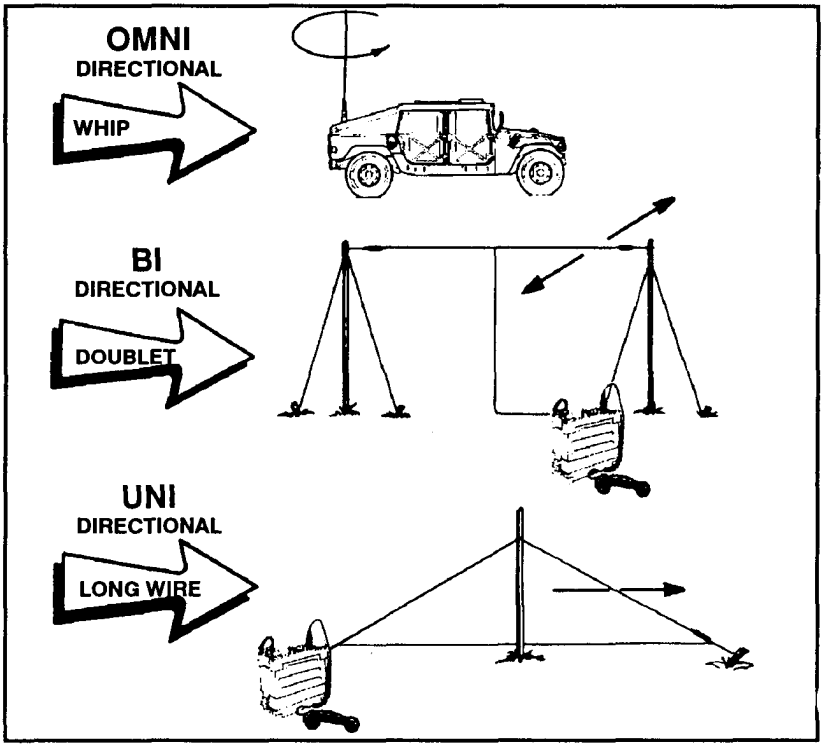

Figure E-5. Directional antennae.

d. **Antenna Length.** To construct expedient, efficient antennas, the wavelength of the frequency being used must be known. The length of the antenna needed can be determined by using the proper formula below:

- To figure a quarter-wavelength antenna in feet, divide 234 (constant) by the operating frequency MHz.
  Example: 234 divided by 44.8 = 5.22 or 5 feet 2 inches
- To figure a half-wavelength antenna in feet, divide 468 (constant) by the operating frequency in MHz.
  Example: 468 divided by 56 = 8.36 or 8 feet 5 inches
- To figure a full-wavelength antenna in feet, divide 936 (constant) by the operating frequency in MHz.
  Example 936 divided by 45 = 20.8 or 20 feet 10 inches

A quarter-wavelength antenna is the minimum-size antenna. The half-wavelength or greater provides greater reliability, Five full wavelengths provide the optimum antenna length for any given frequency. (See Table E-2.)

OPERATING FREQUENCY IN MHz	ELEMENT LENGTH (Radiating element and ground-plane elements)
30	7 feet, 10 inches
32	7 feet, 4 inches
34	6 feet, 11 inches
36	6 feet, 6 inches
38	6 feet, 2 inches
40	5 feet, 10 inches
43	5 feet, 5 inches
46	5 feet, 1 inch
49	4 feet, 9 inches
52	4 feet, 6 inches
55	4 feet, 3 inches
58	4 feet, 0 inches
61	3 feet, 10 inches
64	3 feet, 8 inches
68	3 feet, 5 inches
72	3 feet, 3 inches
76	3 feet, 1 inch

Table E-2. Quick reference chart.

e. **Vertical Antenna.** Vertical antennas are omnidirectional. Most tactical antennas are vertical-for example, the man-pack portable radio and the radios in tactical vehicles. A vertical antenna can be made by using a metal pipe or rod of the right length, held erect by guidelines. The lower end of the antenna should be insulated from the ground by placing it on a large block of wood or other insulating material. A vertical antenna can also be a wire supported by a tree or a wooden pole (Figures E-6 and E-7, page E-10). For short vertical antennas, the pole may be used without guidelines (if properly supported at the base).

(1) Use a quarter-wave antenna to replace a regular whip antenna. The following steps explain how to erect a quarter-wave vertical antenna:

STEP 1. Use the quick-reference chart in Table E-2 or the formula for a quarter-wave antenna to determine the length of the wire (WD-1) needed.

STEP 2. Attach an insulator to one end of the wire and insert the other end (stripped) into the antenna connector on the radio.

STEP 3. Tie a rope to the insulator end and throw the rope over a limb.

STEP 4. Pull the rope until the wire is vertical.

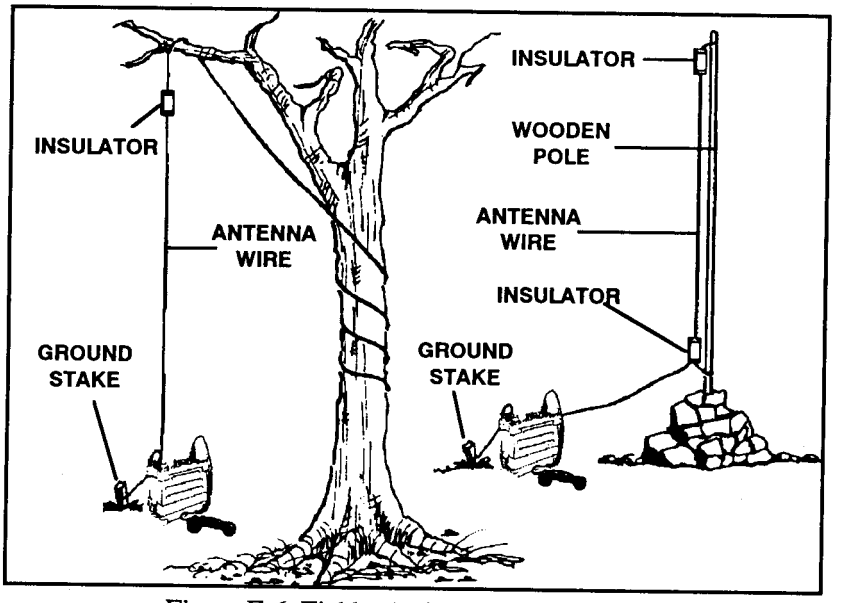

Figure E-6. Field substitutes for support of vertical wire antenna.

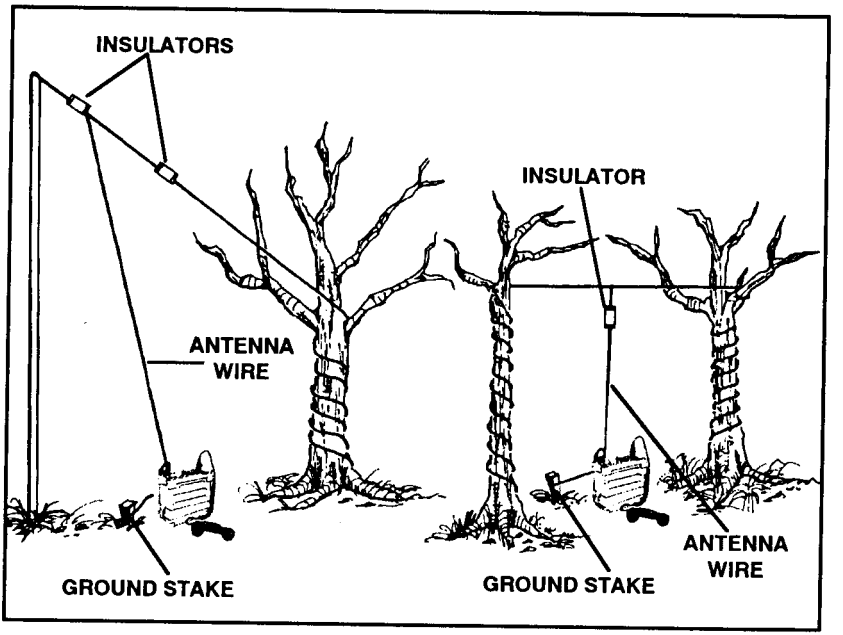

Figure E-7. Extra support for vertical wire antenna.

(2) If using insulated wire, be sure to loop the wire around the handle of the radio before attaching it to the antenna connector. If the antenna is made of bare wire, use a stake and insulator to prevent the antenna wire from pulling out of the antenna connector on the radio.

f. **Field-Expedient Unidirectional Antenna.** The reconnaissance platoon can improve its ability to communicate by using field-expedient antennas. While moving, the platoon is usually restricted to short antennas; however, when stationary, expedient antennas allow farther broadcasting farther and clearer reception.

(1) ***Vertical half rhombic.*** The vertical half-rhombic antenna (Figure E-8) is a field-expedient unidirectional antenna.

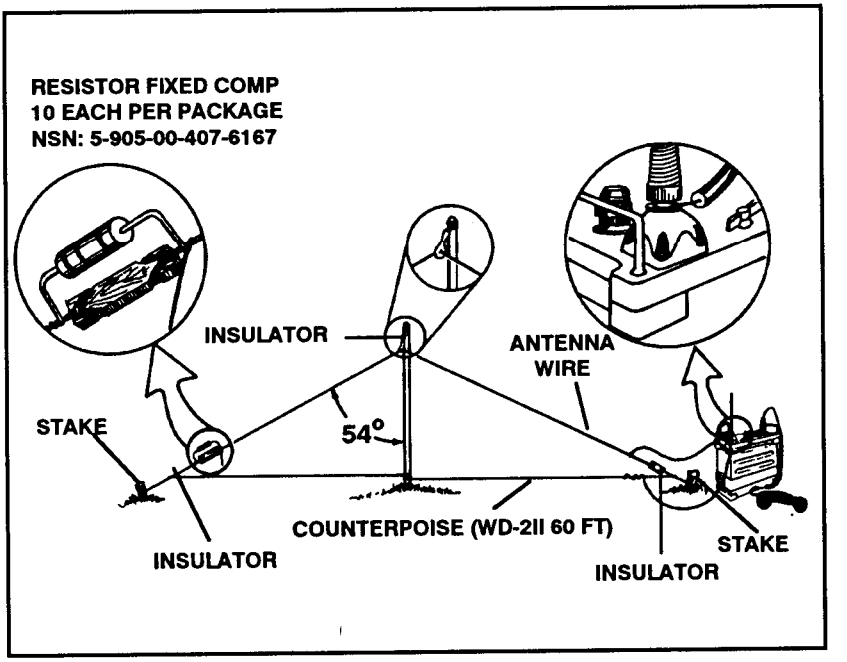

Figure E-8. Vertical half-rhombic antenna.

CAUTION

THIS ANTENNA SHOULD NOT BE USED ON AN RT-524 IN HIGH POWER. SERIOUS DAMAGE TO THE RADIO CAN RESULT.

STEP 1. Determine the direction of the station to be reached and line up the antenna. Plan all work in that direction.

STEP 2. Build the antenna.

(a) Cut 100 feet of wire for the antenna.

(b) Cut 91 feet of wire for a counterpoise. (This is a wire stretched across the bottom of the antenna. It is an artificial ground that helps to produce the required radiation pattern.)

(c) Connect an insulator to each of the antenna wires and one at the middle. Add a tie-down wire outside the insulators on each of the antenna wires.

(d) Connect the counterpoise to the insulators at the same point as the tie-down wire.

(e) Select or erect a middle support (a tree, pole, or a wire or rope suspended between two trees or structures). The midpoint must be at least 30 feet high.

(f) Stretch the counterpoise out in the direction of the target station with the middle of the counterpoise at the center support. Drive the stakes in by each tie-down wire, stretch the counterpoise tightly, and tie it down to the stake. Elevate the center of the antenna until it is right.

(g) Run the wire from the antenna terminal and connect it to the antenna above the insulator. Run a second wire from the head of the screw on the radio case to the bottom of the insulator.

(h) Place a 600-ohm, 2-watt carbon resistor at the end toward the desired station to make this antenna transmit only toward the desired station. Ensure the resistor is carbon and not wire-wound. A 2-watt resistor works for the AIWPRC-77, but a resistor with wattage rating of half the power output is needed for the higher-power ratio.

NOTE: This antenna can be used without the counterpoise but will not work as well.

(2) ***Long-wire antenna.*** The field-expedient long-wire antenna (Figure E-9) is a directional antenna that can be easily made out of readily available materials. A 500- to 700-ohm resistor, which can be acquired from the communications sergeant or made as in Figure E-12, should be used at the far end of the antenna. To build this antenna, the antenna wire (WD-1) is cut to between 2 and 5 full wavelengths of the operating frequency. It is attached to the long whip base of the radio set and then run through the insulator as shown in Figure E-12 (1). The wire is then run through the second insulator (2), down to the resistor (3), and ends at the ground stake (4). Another wire is attached to the opposite end of

the resistor and run back to the radio set where it is attached to the radio set ease (ground). The direction of transmission is toward the end of the antenna with the resistor. The radio is turned on, and communications are checked.

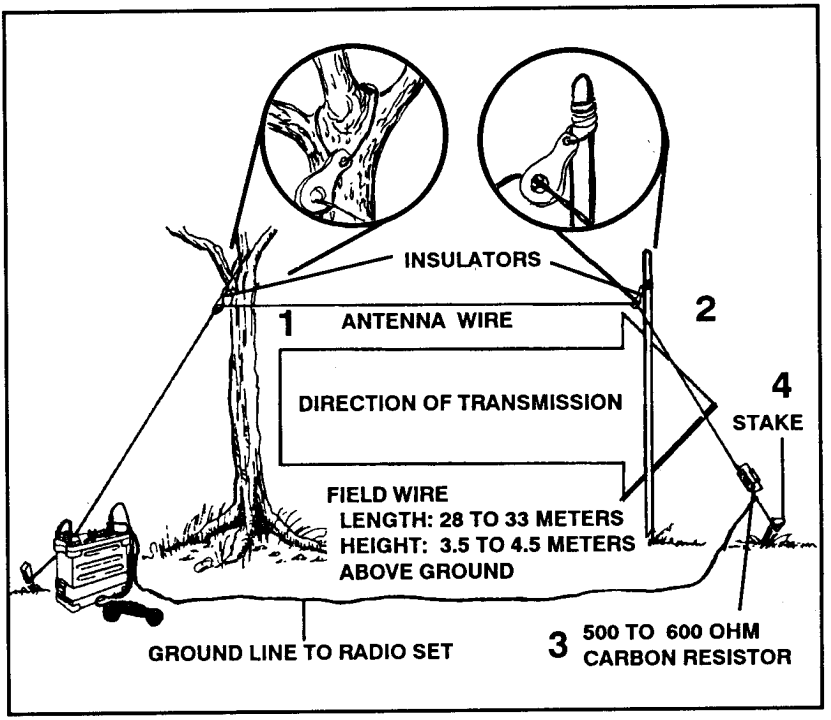

Figure E-9. Long-wire antenna.

(3) ***OE-254 improvised antenna.*** This antenna can be used in wooded areas where a tree limb can be used to raise it. The following steps can be used to build this antenna.

STEP 1. Use the following formula by cutting four wires of equal length:

Length of wire (meters) = 142.5/frequency in MHz
EXAMPLE: 2-meter lengths = 145.5/71.2 MHz

STEP 2. Connect three wires to one end of an insulator (Figure E-10). Form an equilateral triangle with sticks, and attach the free end of each of the three wires to a corner of the triangle.

STEP 3. Connect one end of the fourth wire to the opposite end of the desired insulator in STEP 2. Connect the free end of the fourth wire to another insulator. Tie a rope or wire to the insulator, which will be used to throw over a tree branch and to pull the antenna into the air.

STEP 4. Before raising the antenna, connect WD-1 to the lower insulator (described in STEP 2) as shown in Figure E-10. At the radio, connect any wire of the WD-l to the radio chassis and one wire to the radio connector.

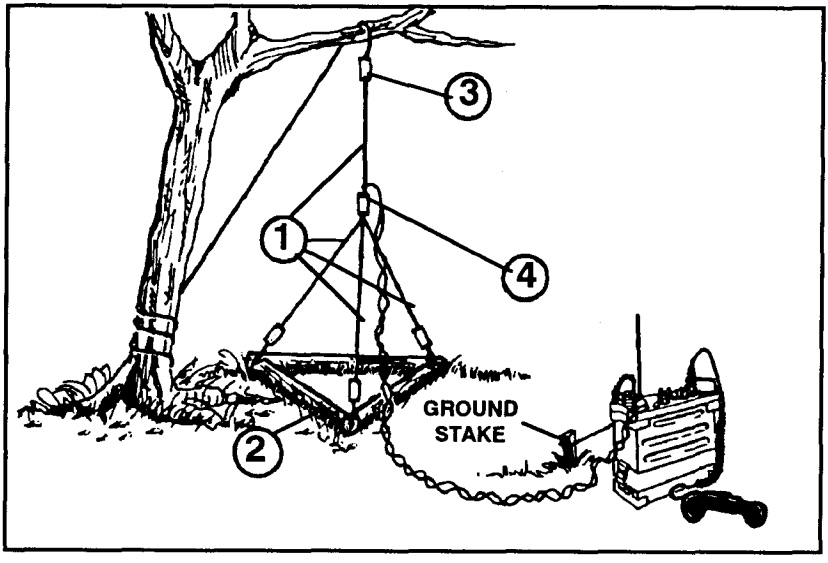

Figure E-10. OE-254 improvised antenna.

(4) *V-antenna.* The V-antenna (Figure E-11) is a field-expedient unidirectional or bidirectional antenna. It has two wires forming a V pointing toward the desired direction of transmission or reception. To make construction easier, the legs may slope downward from the apex of the V. This is called the **sloping V-antenna** (Figure E-12). The angle between the legs varies with the length of the legs to achieve the greatest performance. Table E-3 is used to determine the angle and the length of the legs. When the antenna is used with more than one frequency of wavelength, an apex angle is used midway between the extreme angles determined by the chart. To make the antenna radiate in only one

direction, add noninductive terminating resistors from the end of each leg (not at the apex) to the ground. The resistors should be about 500 ohms and have a power rating of at lease one-half that of the output power of the transmitter being used. Without the resistors, the antenna radiates bidirectionally, both front and back. The antenna must be fed by a balanced transmission line.

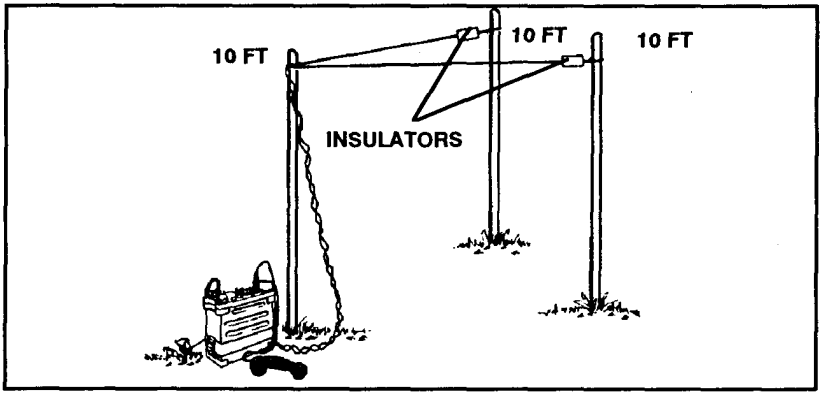

Figure E-11. V-antenna.

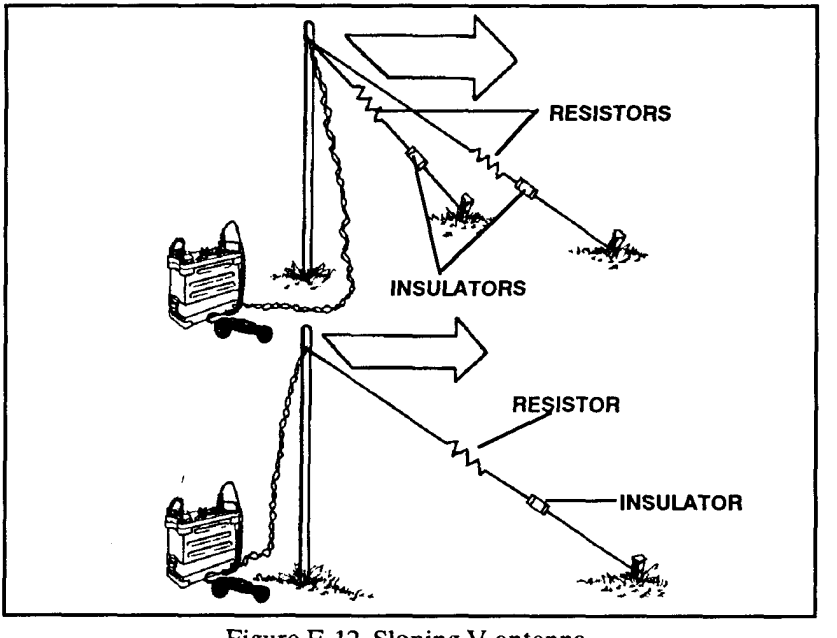

Figure E-12. Sloping V-antenna.

(5) ***Field-expedient resistors.*** Resistors are used in the construction of some antennas to make them unidirectional. Sometimes, a manufactured resistor can be hard to obtain. A field-expedient resistor can be made using the following methods:

(a) One method is to use an old, cylindrical-type earplug case to make a simple and adequate resistor. Cut the chain on the earplug case close to the center. Open and fill the case with water from a canteen; pour one to two salt packets from the MRE pouch into the water and reseal the container. Attach one end of the antenna wire to one side of the earplug case (Figure E-13). Attach the other side of the antenna wire to the opposite side of the earplug case. Then, complete the circuit as in the instructions for the specific antenna.

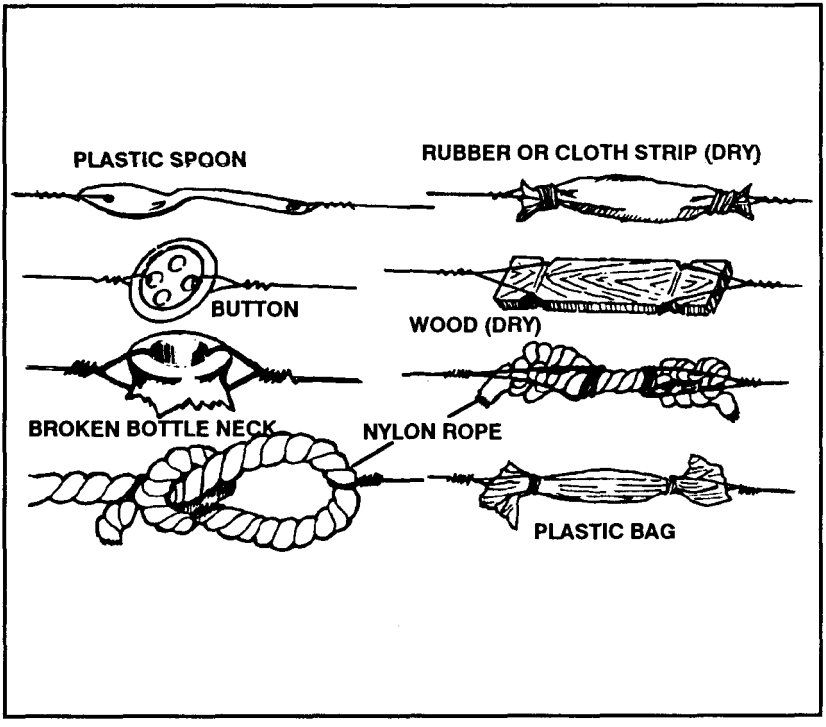

Figure E-13. Expedient resistors.

(b) Another method is to use the carbon core of the BA-30 battery. Cut open the battery and remove the core, using only the carbon core. Attach this resistor to the antenna the same way as the earplug resistor. Both resistors provide about 500- to 1,000-ohm resistance, which is enough for most low-power military radio sets.

(6) ***Antenna insulators.*** If a field-expedient antenna's transmitting element is not properly insulated, it may become shorted to the ground and be ineffective. Many items can be used as field-expedient insulators. The best items are plastic or glass, which include plastic spoons, plastic buttons, plastic bags, and glass bottle necks. Wood and rope or both are less effective than plastic or glass. The radiating element—the antenna wire-should touch only the antenna terminal; it should be physically separated from all objects except the supporting insulator.

E-3. JAMMING

Jamming is an effective way to disrupt control of the battle. All that is required is a transmitter, tuned to a friendly frequency, with enough power output to override the signal at the receiver. Jammers operate against receivers, not transmitters. They are especially effective against voice, data, and communications circuits using on-line encryption devices. Many sophisticated jamming signals can be used. Any jamming must be reported accurately, using the MIJI report format. (Refer to FM 34-1.) The two types of jamming areas follows:

- Obvious Jamming. The enemy can use obvious interference jamming such as steeped tone (bagpipes), random-key Morse code, pulses, and recorded sounds.
- Subtle Jamming. With subtle jamming, the operator may not realize he is being jammed because no sound is heard from the receiver.

a. **Jamming Countermeasures.** When RATELOs experience radio interference, they must try to determine its source. The following steps can help in determining the type of interference:

(1) Check the frequencies on either side of the operating frequency. The enemy normally works against selected targets (spot-jam) to protect his own communications. If the signal strength falls off on either side of the operating frequency, the radio is probably being spot-jammed.

(2) Detach the antenna. If the interference continues, it means internal equipment troubles. If it stops, it is outside interference.

(3) Move to a new location. If the signal strength varies greatly, the radio may have been too close to power lines or generators. If it does not vary, the radio is probably being jammed.

b. **Interference Techniques.** Once the interference has been identified as jamming, the following steps should be taken:

(1) Report the jamming using a secure means. To prevent the enemy from knowing the results of his jamming efforts, do not announce over nonsecure radio or wire circuits that the station is being jammed.

(2) Try to work through the jamming by increasing transmitter power. Move the antenna to a position where it is masked from the enemy jammer, and slowdown the rate of transmission. When using voice radio, repeat each word and make the greatest use of the phonetic alphabet. Do not yell into the microphone as this only creates garbled reception, not stronger signals.

(3) Make and use a horizontally polarized directional antenna to increase the effective radiated power of the radio. (See paragraph E-2.)

NOTE: Antenna polarization should be the same for all stations in the net for the best communications.

(4) Switch communications modes if all attempts have failed to evade or work through jamming. Data, teletypewriter, and other pulse train communications systems are most susceptible to jamming. Secure voice and low-level OPCODEs are less vulnerable, and Morse code CW is the least affected. Wire systems and messenger service are reliable as an alternate means.

(5) If tests show the probability of jamming, follow local SOP to restore communications and to start a MIJI report, informing higher headquarters of the jamming.

E-4. IMITATIVE COMMUNICATIONS DECEPTION AND AUTHENTICATION

Besides RDF and jamming, the enemy's EW arsenal contains another weapon called **deception.** Once the enemy has a clear picture of the communications networks, he could try to enter selected nets disguised as a friendly station. This action is called **imitative communications deception.** The enemy uses language experts who speak with the latest slang and accents, and who are thoroughly drilled in proper communications procedures. The enemy ICD experts are believable. If accepted into friendly nets, they reward trust with deceit. ICD could result in the shelling of friendly forces, walking into enemy ambushes, or deploying to the wrong positions.

a. ICD is probably the easiest EW technique to counter. The enemy must have a complete, in-depth knowledge of the opposing communications systems and operating procedures. He must be able to blend into friendly networks to be accepted. Therefore, any procedure implemented to block this ECM effort reduces his chance for success. Authentication is the best way to stop ICD. In most cases, the called RATELO makes the first challenge and is required to authenticate when—

(1) Suspecting imitative deception on any circuit; for example, when contacting a station following one or more unsuccessful tries.

(2) Authenticating is requested or a station is challenged. This is not to be interpreted as requiring stations to break an imposed *silence* for the sole purpose of authenticating.

(3) Directing radio silence or listening silence, or requiring a station to break an imposed silence.

(4) Transmitting contact and amplifying reports in plain language.

(5) Transmitting operating instructions that affect the military situation; for example, closing down a station or watch, changing frequency other than normal scheduled changes, directing the setup of a special communications guard, requesting artillery fire support, or directing relocation of forces.

(6) Transmitting a plain language cancellation.

(7) Making the first radio contact or resuming contact after prolonged interruptions.

(8) Transmitting to a station that is under radio-listening silence.

(9) Transmitting an authorized classified message in the clear.

(10) Being forced, due to no response by a called station, to send a message in the blind (transmission authentication).

b. Authentication is not required when making first contact after a scheduled call sign and frequency change. Only friendly stations know their assigned call sign and frequency for the time in use. If the RATELO is not sure that authentication is required, he must challenge. If a station takes more than 15 to 20 seconds to authenticate, the RATELO must challenge again. A 15- to 20-second wait is necessary because an enemy operator will try to contact some other station and have it respond to that same challenge. Once the enemy receives an answer, he calls back and blames the delay on equipment failure.

E-5. SECURE OPERATIONS

The reconnaissance platoon's mission is to provide the commander information. This may require extended operations beyond the FEBA. To preclude problems with communications security, the platoon must be familiar with cryptographic equipment, codes, and ciphers.

a. The preferred method for maintaining secure communications is to use on-line cryptographic equipment such as Vinson-speech secure equipment. The platoon must be familiar with Vinson operations including over-the-air rekeying (OTAR) procedures. The platoon can expect to zero Vinson keys as a precaution to prevent compromise and must be able to receive new key from the battalion over the radio.

b. All soldiers must be familiar with encoding and decoding procedures. Radio nets may be forced to operate in a nonsecure mode due to equipment failure or loss of key. Operation codes and numerical ciphers

are necessary to allow the platoon to continue to transmit secure information until the radio net can be secured.

E-6. SIGNALS

Arm-and-hand signals and pyrotechnics are other methods used to communicate. Arm-and-hand signals are common throughout the Army. They are used primarily to control small elements. Pyrotechnics are used to indicate messages and when arm-and-hand signals are inappropriate.

a. **Arm-and-Hand Signals.** Leaders use arm-and-hand signals to control movement and initiate specific action by the viewer. All members of the platoon should be familiar with both mounted and dismounted arm-and-hand signals. (See FM 21-60 for more information.)

b. **Pyrotechnics.** Pyrotechnics produce either smoke or light and are consumed in the process. When used for communications, prearranged or prescribed signals are developed and used throughout the force. These signals are developed based on the color and characteristics of the pyrotechnic device used. Pyrotechnic signals supplement or replace normal means of communication and allow a large number of soldiers and or forces to be signaled quickly. They can be used for friendly identification, maneuver element control, fire support control, target marking, and location reports. When pyrotechnics are used, the signal and its meaning are included in the command and signal portion of the operation order and in the SOI.

(1) The following types of hand-held signal rockets are available:

(a) *Star clusters.* Star clusters are used for signaling and illuminating. They are issued in an expendable launcher that consists of a launching tube and a firing cap. These signals produce a cluster of five free-falling pyrotechnic stars. Star clusters are available in green, red, and white.

(b) *Star parachutes.* Star parachutes are used for signaling and illuminating. They are issued in an expendable launcher that consists of a launching tube and a firing cap. These signals produce a single parachute-suspended illuminant star. Star parachutes are available in green, red, and white.

(c) *Smoke parachutes.* Smoke parachutes are used for signaling only. They are issued in an expendable launcher that consists of a launching tube and a firing cap. The device is a perforated canister that is parachute-suspended. They are available in green, yellow, and red smoke.

(2) Smoke grenades are available in white, green, yellow, red, and violet smoke. These colors are provided by two types of grenades:

(a) *White-smoke hand grenade.* The white-smoke hand grenade is a burning-type grenade used for signaling and for laying smoke screens. When ignited, it produces dense white smoke for 105 to 150 seconds. It

will not normally injure exposed troops. In heavy concentrations, troops should wear the field protective mask. However, the mask will not protect against heavy concentrations of this smoke in enclosed spaces due to oxygen depletion and carbon monoxide buildup.

(b) *M18 colored-smoke grenade.* The M18 colored-smoke grenade is similar in appearance to the white-smoke hand grenade, but its top is painted the color of the smoke it produces. Its filler is a burning-type mixture containing a dye; only four are standard: red, green, violet, and yellow. As a burning-type grenade, it has an igniting-type fuse and burns 50 to 90 seconds.

E-7. LOCAL TELEPHONES

The platoon often finds that radio communications are not a feasible means of relaying information, especially if the platoon is too far away to use FM radio, the mission requires radio-listening silence, or the platoon's equipment is inoperable. An option, other than messenger, is the use of the local telephone. In some areas of operation, telephone drop lines are incorporated as part of an overall plan. In other situations, soldiers should be briefed on and know a few simple requirements for possible use of local telephones. It is not a secure method and should not be relied on as a primary means of communication. Soldiers should adhere to the following guidelines regarding use of local telephones:

- Have local currency available.
- Know (as part of the plan) the telephone number of higher headquarters.
- Know the proper use of the local telephone system.
- Learn enough of the local language to talk to the operator (if required).
- Know the emergency numbers of local police or ambulance.

APPENDIX F

PLATOON/SQUAD DRILLS

This appendix discusses the platoon and squad battle drills executed by the reconnaissance platoon. The reconnaissance platoon takes pride on its ability to operate in enemy territory without being detected. Avoiding detection is a high priority for the reconnaissance platoon/squad. Even though the reconnaissance platoon/squad seeks to avoid enemy contact, there are occasions when contact is made. This contact may be by chance or as the result of an enemy ambush. The survivability of the reconnaissance platoon/squad may depend on its ability to react to these situations. When contact is made, the reconnaissance platoon/squad breaks contact and notifies higher headquarters of the situation. Based on the guidance from higher headquarters, the reconnaissance platoon/squad either continues or aborts the mission.

F-1. BREAK CONTACT

Once enemy contact is made, the platoon leader at tempts to break contact (Figure F-1). The actions of the reconnaissance platoon / squad are as follows:

a. Soldiers immediately seek the nearest covered or concealed position and return fire. The platoon leader requests indirect fire.

b. The squad leader directs soldiers to bound away from the contact. The remaining soldiers assist the bounding soldiers by placing well-aimed fire on the enemy position.

c. The distance soldiers bound depends on METT-T. Once the bounding soldiers occupy their positions, they place direct fire on the enemy.

d. The soldiers covering the initial bound now become the bounding element. These soldiers execute fire and movement and bound to a position beyond the supporting element.

e. The squad continues to conduct reverse bounding until contact is broken. Soldiers use smoke and fragmentation grenades to obscure their movement and degrade the enemy's fire.

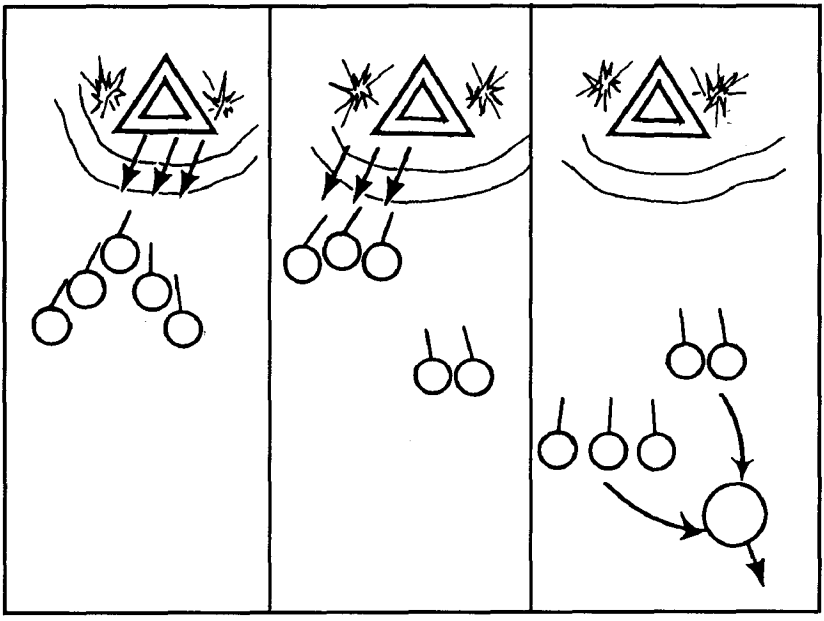

Figure F-1. Break contact.

F-2. REACT TO NEAR AMBUSH

The reconnaissance platoon/squad may also be required to react to an ambush. The actions taken by the reconnaissance platoon/squad are determined by its distance from the enemy at the time of the ambush. The near ambush is one in which the killing zone is within hand grenade range of the enemy executing the ambush.

a. When a reconnaissance platoon/squad is caught in a near ambush, soldiers in the kill zone carry out one of the following actions without order or signal:

(1) If cover is not available, soldiers assume the prone position and throw concussion or fragmentation and smoke grenades.

(2) If cover is available, soldiers assume the prone position, seek the nearest covered position, return fire, and throw fragmentation or concussion and smoke grenades.

b. After the explosion of the grenades, soldiers in the kill zone return fire and assault through the ambush position using fire and movement.

c. Soldiers not in the kill zone identify the enemy location and place accurate suppressive fire against the enemy positions. Fire is shifted as the soldiers in the kill zone begin to assault. (Figure F-2.)

d. Personnel in the kill zone continue the assault to eliminate the ambush or until contact is broken.

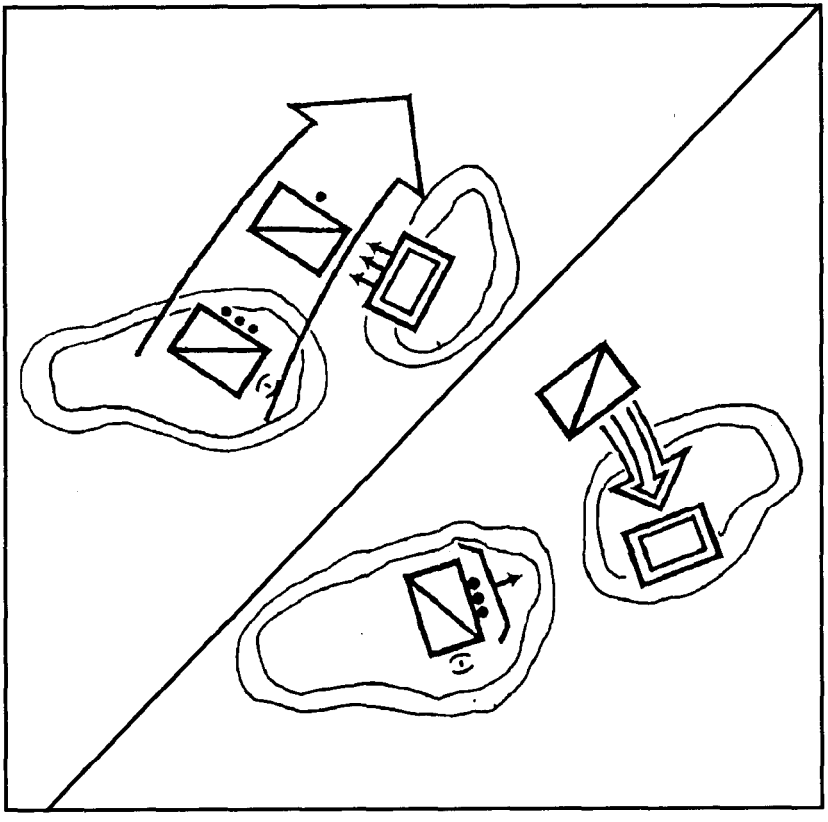

Figure F-2. React to near ambush.

F-3. REACT TO FAR AMBUSH

The far ambush is one in which the kill zone is outside hand grenade range of the enemy executing the ambush. The actions of the reconnaissance platoon/squad are as follows:

a. Without order or signal, soldiers in the kill zone assume the prone position and return fire. They take available covered positions and continue well-aimed fire at the ambush position. Smoke grenades are used to impair enemy observation of the kill zone and affect his ability to place aimed fire into the kill zone (Figure F-3).

b. Those soldiers not in the kill zone continue the assault until the ambush is eliminated or contact is broken.

c. The reconnaissance platoon/squad leader requests indirect fire when the enemy withdraws or the separation between the elements is far enough to avoid friendly casualties. Smoke is used to impair enemy observation.

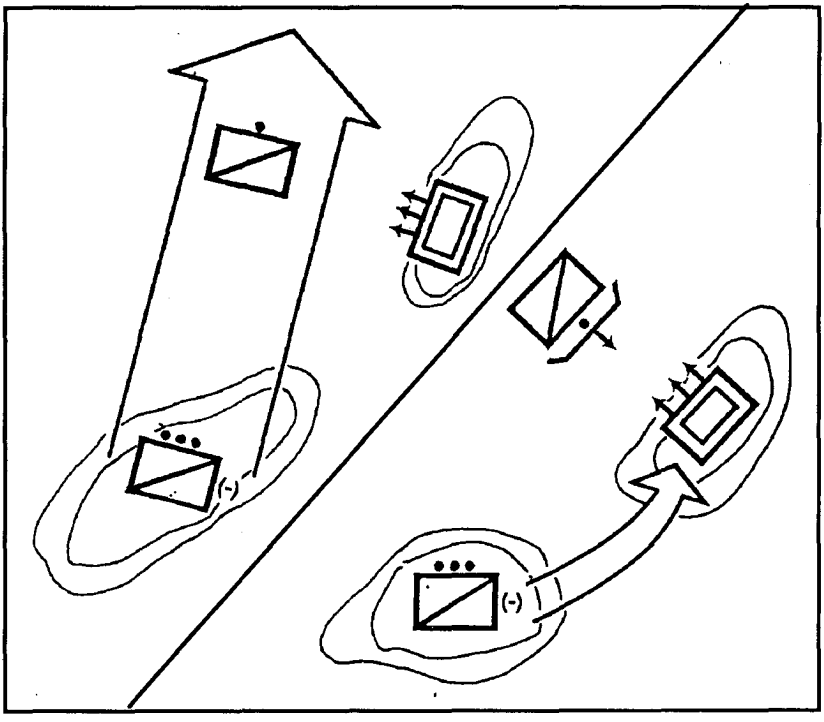

Figure F-3. React to far ambush.

F-4. REACT TO INDIRECT FIRE

The reconnaissance platoon/squad must understand the actions that they should take when under attack by indirect fire. The platoon leader or any soldier warns the platoon or squad by shouting, "Incoming." Soldiers assume the prone position and wait for the round to impact. The platoon leader gives the direction and distance for the reconnaissance platoon/squad to move (for example, ONE O'CLOCK, TWO HUNDRED METERS). The reconnaissance platoon/squad runs out of the impact area in the direction and for the distance that was indicated. Once they arrive at the designated location, the platoon leader accounts for all personnel and notifies higher headquarters of the situation.

GLOSSARY

ACRONYMS AND ABBREVIATIONS

AA . . . . . assembly area
AC . . . . . Airspace coordination area
ACL . . . . . allowable cargo load
ADA . . . . . air defense artillery
admin . . . . . administrative; administration
ALO . . . . . aviation liaison officer
ALT . . . . . alternate (3-2)
AP . . . . . armor-piercing
APDS . . . . . armor-piercing discarding sabot
AR . . . . . armor
ARTEP . . . . . Army Training and Evaluation Program
arty . . . . . artillery
ASL . . . . . assistant squad leader
aslt . . . . . assault
AT . . . . . antitank
atk . . . . . attack
ATL . . . . . assistant team leader
b d e . . . . . . brigade
BDU . . . . . battle dress uniform
BMNT . . . . . beginning morning nautical twilight
BMP . . . . . a Threat fighting vehicle
bn . . . . . battalion
BRDM . . . . . (a Threat scout car)
BSA . . . . . brigade support area
CAM . . . . . chemical-agent monitor
CAS . . . . . close air support
CB . . . . . chemical biological
Cdr . . . . . commander
CDS . . . . . container deliver system
CFL . . . . . coordinated fire line

cGys . . . . . centigrams
CHEMWARN . chemical warning
CL . . . . . chalk leader
CO . . . . . commanding officer
Co . . . . . company
COL . . . . . colonel
COA . . . . . course of action
COMMEX . . . communications exercise
CP . . . . . command post
CPL . . . . . corporal
CS . . . . . combat support
CSS . . . . . combat service support
CW . . . . . chemical warfare
DA . . . . . Department of the Army
DEW . . . . . directed-energy weapon
DOA . . . . . direction of attack
DP . . . . . decision point(s)
DS . . . . . direct support
DTD . . . . . dated
DTG . . . . . date-time group
DZ . . . . . drop zone
EA . . . . . engagement area
ECM . . . . . electronic countermeasures
EEI . . . . . essential elements of information
EENT . . . . . end of evening nautical twilight
EMP . . . . . electromagnetic pulse
EPW . . . . . enemy prisoner of war
EW . . . . . electronic warfare
FA . . . . . field artillery
FAC . . . . . forward air controller
FASCAM . . . . family of scatterable mines
FDC . . . . . fire direction center
FEBA . . . . . forward edge of battle area
FE . . . . . fire for effect
FFE . . . . . fire for effect

FFL . . . . . friendly forward line
FIST . . . . . fire support team
FM . . . . . field manual; frequency modulation
FO . . . . . forward observer
FOV . . . . . field of view
FPF . . . . . final protective fires
FRAGO . . . . fragmentary order
FREQ . . . . . frequency
FS . . . . . fire support
FSE . . . . . fire support element
FSO . . . . . fire support officer
ft . . . . . feet
GHz . . . . . gigahertz
GRN . . . . . grenadier
GS . . . . . general support
GSR . . . . . ground surveillance radar
GTA . . . . . graphic training aid
HC . . . . . herachloroethane-zinc (a smoke grenade)
HE . . . . . high explosive
HEAT . . . . . high-explosive antitank
HHC . . . . . headquarters and headquarters company
HMMWV . . . high-mobility, multipurpose wheeled vehicle
HPM . . . . . high-power microwave
HQ . . . . . headquarters
IAW . . . . . in accordance with
ICD . . . . . imitative communication deception
ICM . . . . . improved conventional munitions
illum . . . . . illumination
immed . . . . . immediately
INTEL . . . . . intelligence
INTSUM . . . . intelligence summary
IPB . . . . . intelligence preparation of the battlefield
IPR . . . . . in-process review
IR . . . . . information requirement
IRP . . . . . initial rally point
JM . . . . . jump master

KIA . . . . . killed in action
km . . . . . kilometers
kmph . . . . . kilometers per hour
LBE . . . . . load-bearing equipment
LC . . . . . line of contact
LCE . . . . . load-carrying equipment
LCMS . . . . . laser countermeasure system
LD . . . . . line of departure
ldr . . . . . leader
LOA . . . . . line of advance
log . . . . . logistics
LOGPAC . . . . logistics package
LOGSTAT . . . logistics status
LOS . . . . . line of sight
LT . . . . . lieutenant
LZ . . . . . landing zone
m . . . . . meter
MBA. . . . . . main battle area
mech . . . . . mechanized
MED . . . . . medical/medium
MEDEVAC . . medical evacuation
METT-T . . . . mission, enemy, terrain, troops, and time available
MG . . . . . machine gun
MH_z . . . . . megahertz
mi . . . . . mile
MIJI . . . . . meaconing, intrusion, jamming, ... and interference
min . . . . . minute
MLRS . . . . . multiple-launch rocket system
mm . . . . . millimeter
MOPP . . . . . mission-oriented protection posture
MOS . . . . . military occupational specialty
MOUT . . . . . military operations on urbanized terrain
MP . . . . . military police
MRE . . . . . meal, ready-to-eat

MTF . . . . . medical treatment facility
MTOE . . . . . modified table of organization and equipment
MTP . . . . . mission training plan
NA . . . . . not applicable
NAI . . . . . named areas of interest
NBC . . . . . nuclear, biological, chemical
NCO . . . . . noncommissioned officer
NCOIC . . . . . noncommissioned officer in charge
NCS . . . . . net control station
NET . . . . . not earlier than
NGF . . . . . naval gunfire
NLT . . . . . not later than
NO . . . . . number
NOD . . . . . night observation device
NSN . . . . . national stock number
NUCWARN . . nuclear warning
NV . . . . . night vision
NVD . . . . . night vision device
NVG . . . . . night vision goggles
O&I . . . . . operations and intelligence
OBJ . . . . . objective
OAKOC . . . . observation and fields of fire, avenues of approach, key terrain, obstacles and movement, and cover and concealment.
OEG . . . . . operational exposure guidance
OIC . . . . . officer in charge
OP . . . . . observation post
OPCODE . . . operations code
OPCON . . . . operational control
OPNS . . . . . operations
OPORD . . . . operational order
OPSEC . . . . . operations security
OPSKED . . . . operational schedule
ORP . . . . . objective rally point
OT . . . . . observer target

OTAR . . . . . over-the-air rekeying
PAC . . . . . personnel and administration center
PDY . . . . . present-for-duty
PERS . . . . . personnel
PERSTATREP personnel status report
PEWS . . . . . platoon early warning system
PFC . . . . . private first class
PIR . . . . . priority intelligence requirement
PL . . . . . platoon leader; phase line
PLL . . . . . prescribed load list
plt . . . . . platoon
PMCS . . . . . Preventive Maintenance Checks and Services
POL . . . . . petroleum, oils and lubricants
PP . . . . . passage point
PRC . . . . . manpack radio
PSG . . . . . platoon sergeant
psn . . . . . position
PW . . . . . prisoner of war
pwr . . . . . power
PZ . . . . . pickup zone
R . . . . . radiotelephone operator
R/A . . . . . readily available
RATELO . . . . radiotelephone operator
R&S . . . . . reconnaissance and surveillance
RATELO . . . . radiotelephone operator
RDF . . . . . radio direction finder(ing)
recon . . . . . reconnaissance
REMS . . . . . remote sensor
RP . . . . . release point
RRP . . . . . reentry rally point
RSTA . . . . . reconnaissance, surveillance, and target acquisition
RV . . . . . receive variable
S2 . . . . . intelligence officer
S3 . . . . . operations and training officer

S4 . . . . . Supply Officer (US Army)
1SG . . . . . first sergeant
SALUTE . . . . size, activity, location, unit, time, and equipment
SAT . . . . . security assistance team
sct . . . . . scout
SEO . . . . . sniper employment officer
SFC . . . . . sergeant first class
SGT . . . . . sergeant
SINGARS . . . single-channel ground and airborne radio subsystem
SITREP . . . . situation report
SJA . . . . . Staff Judge Advocate
SL . . . . . squad leader
SMCT . . . . . soldier's manual of common tasks
SNAP . . . . . size, nature, activity, protection
SOI . . . . . signal operation instructions
SOP . . . . . standing operating procedure
SOSR . . . . . suppress, obscure, secure, reduce
SP . . . . . start point
SPC . . . . . specialist
SPOTREP . . . spot report
SSG . . . . . staff sergeant
STABO . . . . . a system for extracting personnel by helicopter
STP . . . . . soldier's training publication
sqd . . . . . squad
tac . . . . . tactical
TACSAT . . . . tactical communications satellite
TAI . . . . . target areas of interest
TB . . . . . technical bulletin
TDA . . . . . tables of distribution and allowances
TEK . . . . . talk encryption key
TF . . . . . task force
TI . . . . . technical inspection
TIRS . . . . . terrain indication recognition system

TLP . . . . . troop-leading procedures
TM . . . . . technical manual
tm . . . . . team
TOE . . . . . tables of organization and equipment
TOT . . . . . time on target
TOW . . . . . tube-launched, optically tracked, wire-guided
TRP . . . . . target reference point
TSOP . . . . . tactical standing operating procedure
UCMJ . . . . . Uniform Code of Military Justice
US . . . . . United States
USAF . . . . . United States Air Force
USAIS . . . . . United States Army Infantry School
USMC . . . . . United States Marine Corps
USN . . . . . United States Navy
veh . . . . . vehicle
vic . . . . . vicinity
VRC . . . . . vehicular radio communications
WP . . . . . white phosphorus
XO . . . . . executive officer

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